MIDWEST DEALER ISSUE
Pages 13-26

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

Published by The Miller Publishing Co., Minneapolis, Minn.

Vol. 4 | Accepted as Controlled Circulation Publication at Minneapolis, Minn. | JANUARY 7, 1957 | Subscription Rates: $5 for 1 year, $9 for 2 years | No. 1

New Legislation For Corn Gets Top Priority at USDA

Ezra Taft Benson Says Allotment Program Has Failed

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — "We shall propose new corn legislation as a first item of business for the coming session of Congress," Ezra Taft Benson, secretary of agriculture, said Dec. 21. "The effect of our proposal will be to give corn farmers a workable program."

The secretary's statement followed a period of intensive study within the U.S. Department of Agriculture concerning the situation which confronts corn and livestock farmers as a result of the outcome of the recent corn referendum. In the Dec. 11 referendum, 61.2% of the farmers voted for a change from present acreage allotments to a program which would allow greater freedom to grow corn but at a slightly lower price. The vote fell short of the two thirds required by law to put the new program into operation.

"Corn farmers face an impossible situation," said the secretary. "As matters now stand, acreage allotments must, under the law, be reduced 14% below the level initially announced for the 1956 crop and

(Continued on page 8)

Northeastern Weed Control Session Set for Jan. 10-12

NEW YORK—The 11th annual Northeastern Weed Control Conference will be held at the Sheraton-McAlpin Hotel here Jan. 10-12 with a packed schedule of research reports. L. L. Danielson, Virginia Truck Experiment Station, Norfolk, Va., is conference chairman.

Soil Bank Off To Good Start in '56, USDA Reports

WASHINGTON — The 1956 soil bank programs were "successful beyond expectation," and a good start for the 1957 programs was made with the sign-up this fall of nearly 11 million acres in the 1957 wheat acreage reserve, U.S. Department of Agriculture officials said at the year-end.

To start the 1957 acreage reserve, farmers signed more than 193,000 agreements to put nearly 11 million acres of fall-seeded winter wheat in this program. The spring-seeded sign-up remains to complete a goal of 12 to 15 million acres of wheat in the soil bank.

An encouraging start also was made with the conservation reserve, when farmers signed-up 1.3 million acres to begin conservation reserve work in 1956, USDA said.

In addition to the land placed under conservation reserve contracts which began with 1956, more than 12.3 million acres were placed in the 1956 acreage reserve programs. These programs were designed to strike at accumulated surpluses by reducing production of the six basic crops—corn, cotton, peanuts, tobacco, rice and wheat.

Summarizing 1956 soil bank activities, USDA officials reported that:

Farmers generally showed great interest in all phases of the soil bank programs.

In spite of the late start, "first year" participation was good in the acreage reserve programs.

The sign-up of winter wheat for the 1957 program reached its share of the goals set for the first full year of Soil Bank operations.

Participation in the conservation reserve, by those relatively few farmers who were in position to count 1956 as the first year of their contracts, was encouraging.

The backlog of operating experi-

(Continued on page 5)

Look at Census Data Points Up Economic Value of Fertilizer

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON—Farms reporting in the U.S. census bureau sample have boosted their purchases of commercial fertilizer by approximately 50% between the years 1944-54, according to a statement by the government statistical agency.

This census bureau estimate states that farmers buying commercial fertilizer in 1954 represented 61% of farms reporting, as compared with 44% of all farms reporting in 1944.

This bare unevaluated report sets forth some material which might be misleading and needs further qualification and explanation. For example, it says that in 1954 reporting farmers had spent slightly more than $1 billion for plant food materials, whereas in 1944 the reporting farms had only spent $374 million. On the surface, it might appear that while increased farmer use of fertilizer had increased by about 50%, the cost of the material had increased by nearly two-thirds.

Trade sources here were quick to catch the misinterpretation which might arise from the unevaluated census bureau figures and hastened to explain that the report standing alone fails to show that during this ten year comparative base farmers had greatly increased their tonnage of plant food per acre. At the same time they had increased their yields per acre and probably had reduced their cost of production per commodity unit to a point which more than offset the high dollar expenditure.

One industry spokesman cited for Croplife this basic comparison as compiled by industry. In 1938, he pointed out, corn belt farmers had used nationally, approximately 1.6

(Continued on page 8)

S. L. Nevins Asks Industry to Back Guarantee Change

LITTLE ROCK — "Manufacturers of chemical fertilizers will experience the greatest boom in their sales history once the confusion of outdated labeling practices is eliminated," S. L. Nevins, vice president of Olin Mathieson Chemical Corp., said Jan. 3 in a statement in support of the proposed change to reporting phosphorus and potassium guarantees on the elemental basis.

Mr. Nevins said that the changes will focus attention favorably on the industry's products and alert the farmer to his fertilizer needs.

To continue the current practice of expressing fertilizer ingredients as oxides "is to hoodwink the farmer by making the analysis appear bigger than it does when expressed wholly as elements," Mr. Nevins said. "Condoning this kind of farm malarkey is not becoming to our industry, to our way of life nor to any of us as individuals.

"There is no reason for price increases based on the changeover. All ingredients will be the same, cost the same per unit and should sell for the same unit price."

Mr. Nevins, who operates Olin Mathieson's plant food division, said that industry-wide support of the proposed change would expedite obtaining legislative approval in all the states.

The complete text of his statement will appear in the Jan. 14 issue of Croplife.

Little Change Made in Burley Tobacco Allotment

WASHINGTON—The U.S. Department of Agriculture has announced that the 1957 acreage allotment for burley tobacco will be 309,300 acres. The 1956 allotment was 308,700 acres, and USDA recently estimated the harvest this year at 310,400 acres.

Pyrethrum Imports Total 8 Million Pounds in 1956

NEW YORK — Imports of African Pyrethrum (PYR), or the equivalent in extracted pyrethrins, totaled about 8 million pounds during 1956, African Pyrethrum Development, Inc. said in a year-end statement.

Planters in Kenya Colony, the Belgian Congo and contiguous territories are planning for increased production in 1957, according to the statement.

Tolerance Set

WASHINGTON—The Food & Drug Administration has approved a tolerance of 200 parts per million for residues of mineral oil in or on shelled corn and grain sorghum.

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Entomologists Hear Results of Experiments on Insect Control

NEW YORK—Technical papers covering physiology, toxicology, biology and chemical control of insects were included in the fourth annual meeting of the Entomological Society of America held at the Hotel New Yorker Dec. 27-30. The meeting was held in conjunction with the American Association for the Advancement of Science.

In a section on chemical control investigations, H. C. Cox, J. E. Fahey and T. A. Brindley, Iowa State College, Ames, discussed European corn borer control in relation to Malathion residues. They described the results of experiments made during the 1954 and 1955 seasons, in which sprays prepared from wettable powder formulations were compared with those made from emulsifiable concentrates. They found that those made from wettable powders gave "significantly better borer control" than did those made from emulsifiable concentrates.

Malathion granules were reported to give about the same results as did the emulsions.

"Emulsion sprays deposited more residue than wettable powder sprays, but the residues from emulsions were less persistent," they said. "Residues from granules were slightly more persistent than residues from emulsions," the paper continued, but added that "there was considerably less residue on the plants after treatments with granules. Practically all the residue following the application of any for-

(Continued on page 33)

THIS ADVERTISEMENT sells new Hi-D Ammonium Nitrate Fertilizer. It appears in February issues of *Capper's Farmer, The Progressive Farmer, Prairie Farmer, Farm & Ranch,* and *Florida Grower and Rancher.*

Farmers asked Question after Question about Hi-D Ammonium Nitrate

Read the kind of down-to-earth questions that many farmers fired at us and you'll see why they decided to make Hi-D Ammonium Nitrate their first choice as a supplemental Nitrogen Source.

Q. What's this "Hi-D" and what's so new about it?

A. Hi-D stands for high density. Hi-D Ammonium Nitrate is a hard, dry fertilizer that's made by an exclusive, patented process. It's a denser product with the maximum moisture "squeezed" out of it before the granule is formed. There isn't another form of ammonium nitrate like it!

Q. What about storage?

A. Commercial Solvents Corporation guarantees that Hi-D Ammonium Nitrate will store well under normal conditions for one full year. And, by the way, that brings up another advantage of Hi-D. Being a denser, more compact material, it has less bulk, takes up less room in storage. 10 bags stack in the same space as 8 bags of other types of ammonium nitrate. That means you can get up to 25% more nitrogen in a normal hopper load.

Q. Well, how does this denser material perform in the spreader?

A. High density means a drier ammonium nitrate. And that means that Hi-D doesn't gum up, doesn't stick, clog, cake or bridge, even on soggy, steamy days.

Q. How does it spread? Hi-D looks different.

A. You're right, Hi-D *is* different. Note the controlled size and unique shape that assure smooth, even distribution in all types of spreading equipment under all field conditions. The beauty of it is that it really flows freely, spreads evenly and stays put!

Q. Doesn't this same high density make for slower action in the soil?

A. Absolutely not. Hi-D dissolves readily in soil moisture, goes to work fast. But as you probably know, Hi-D Ammonium Nitrate gives Two-Step Action. The guaranteed 33.5% N comes in two balanced "servings". You get 16.75% nitrate nitrogen that goes to work immediately for fast, vigorous starts, and 16.75% ammonia nitrogen for sustaining follow-up feeding. Interesting thing about Hi-D, it contains the kind of nitrogen in sodium nitrate *and* the kind in ammonium sulphate as well.

Q. It ought to be better than sodium nitrate and ammonium sulphate—it costs more per bag. What do you say about that?

A. No, no, it costs less! Sure, bag for bag it costs more, but you forget you're not buying bags, you're buying *N*. 100 pounds of Hi-D gives you as much nitrogen as 159 pounds of ammonium sulphate, gives you as much nitrogen as 209 pounds of sodium nitrate. Putting it another way, for 100 pounds of straight N you need over 600 pounds of soda, nearly 500 pounds of sulphate, *but only 298 pounds of Hi-D.*

Q. They say that ammonium nitrate is acid forming. Is Hi-D?

A. Acid forming is just another way of saying that growing crops remove calcium from the soil. Hi-D helps make big crops which take out more calcium than small crops. Of course, some products do include lime but it's an expensive way to get insufficient limestone. As you know, the lime in such products is only enough to neutralize the fertilizer. It's not sufficient to meet the important requirements of a sound, integrated liming program.

Q. Where does Hi-D fit in my fertilizer program?

A. Good question! It gives us a chance to stress mixed fertilizers. We don't sell mixed goods but we can't overemphasize their importance. Hi-D is not a substitute for mixed fertilizers. It's a supplement. Many crops take more nitrogen from the soil than can be put back readily in mixed fertilizers. The role of supplemental nitrogen is to satisfy this additional need. In many cases supplemental nitrogen is the lowest-cost way to get maximum profits. Hi-D Ammonium Nitrate is only one part of your program for lowering crop unit costs. You know better than we do that income goes down unless production per acre goes up. Fertile land is profitable land. Land fertility calls for soil testing, a liming program, the mixed fertilizer your dealer recommends — then, and only then, Hi-D Ammonium Nitrate as needed.

SEE YOUR DEALER. *Ask your dealer for a sample of this new high density material. Look for the GREEN & WHITE BAG. Put Hi-D to work this season. Test it side by side with any other nitrogen fertilizer you want to—on any crop, under any condition. You can trust Hi-D to do the job in the field and in the yield.*

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INSECT AND PLANT DISEASE NOTES

Spotted Alfalfa Aphids Like Other Plants Too

NEW YORK—That the spotted alfalfa aphid could become a pest of more than 30 small seeded legumes, was reported Dec. 31 at the annual meetings of the Entomological Society of America and the American Association for the Advancement of Science here.

The report was based on a study made by Don C. Peters, graduate student in entomology at Kansas State College, and R. H. Painter, also of Kansas, who investigated more than 70 small seeded legumes.

The insect pest, which has already caused widespread destruction in a considerable portion of the alfalfa-producing regions of the U.S. since its discovery in 1954, was found to have many host plants in addition to alfalfa.

The spotted alfalfa aphid and the yellow clover aphids have about 30 hosts among the 70 legumes, it was found. These were from many groups, including the sweetclovers, yellow and ordinary white clovers, alfalfas, and relatives of these plants. In contrast, the sweetclover aphids were found to feed on only about 15 plants, which were all sweetclovers or near relatives.

Five legume species served as hosts equally well for all three aphid species; however, the yellow clover and spotted alfalfa aphids generally did not injure the sweetclovers. Alfalfa was damaged only by the spotted alfalfa aphid.

This basic study of plant-host relationships was regarded as being important not only in determining with which common crops farmers might anticipate trouble with the different species of aphids, but the study also provides valuable information for the planning of future plant breeding work.

New Mexico Growers Set Aphid Loss at $3 Million

STATE COLLEGE, N.M. — The spotted alfalfa aphid cost New Mexico farmers three million dollars in 1956, according to John J. Durkin, extension entomologist at New Mexico A&M College.

Suffering the biggest losses were farmers in the Pecos and Rio Grande valleys. But about every alfalfa grower in the southern two-thirds of the state experienced some economic setback. Farmers who planted alfalfa this fall were particularly hard hit, the entomologist says.

Since the pest was first found in the Pecos Valley in the spring of 1954, it has cost New Mexico alfal growers ten million dollars. Althoug the first outbreak was centered the Artesia area, the aphid so spread in all directions and blanket the southern half of New Mexico. 1955, infestations were found in counties in the state except Colfa Harding, and Union. No outbrea were reported in these counties 1956.

Although insecticides have be the only weapon used in combatti the pests in New Mexico, plant bree ers and entomologists at New Mex co A&M College are working aphid-tolerant strains of alfalfa a new methods of control, Dr. Durk says.

College entomologists are explo ing the effectiveness of systemic i secticides, which are applied at t time of planting. In tests, one these has shown exceptional abili to protect vulnerable seedling plan from aphid damage. The solution the aphid problem lies in continu research, Mr. Durkin adds.

Soybean Nematode Found In Two State Areas

JEFFERSON CITY, MO.—Disco ery of the soybean cyst nematode Missouri has been announced by t State Department of Agricultu here. Julius R. Anderson, state e tomologist, said a soil sample fro southeast Missouri disclosed t presence of this pest which is r garded as a serious menace to so bean production.

Mr. Anderson said that the typ of regulatory quarantine to be im posed had not yet been decided, bu it would probably be in line wit recommendations by federal en tomologists.

The nematode was found in a s sample taken near Hayti in the c ton-soybean country of the Missou bootheel. A check was started aft federal entomologists reported t pest had been found in Tennessee.

More extensive surveys will made to determine the extent of t infestation in Missouri. Virgil Owe assistant state entomologist, fou the first infestation while worki with federal experts.

The soybean cyst nematode w discovered in this country for t first time in 1954 in North Caroli

Tennessee officials were also co cerned over the discovery of th soybean nematode in Lake County Tenn. in December. Buford Ellin ton, agricultural commissioner, sai that a quarantine will be clampe on all of Lake County or at leas portions of it, against shipment of soybeans and other crops suc as potatoes, peanuts, turnips an nursery products.

Soil tests are being made of sa ples from Obion and Dyer Count to determine the extent of the festation. It is likely that the te ing will be made in other count in western Tennessee, Mr. Ellingt said.

On the theory the pest may ha been brought in by over-flow wat from the Mississippi River, oth river states have expressed conce

The parasite was first discove on the farm of J. E. Vaughn n Ridgely. The department checked samples from Lake, Dyer and Ob Counties and found 16 positive sa ples representing 2,000 acres, all Lake County.

Tennessee had about 300,0 acres devoted to commercial so beans in 1956, of which 230,0 were in West Tennessee.

In Missouri, soybeans are gro on about 2,000,000 acres and usua rank second only to cotton in M souri farm income. Authorities both states had expressed the opini that if the infestation is not c trolled, it could cause heavy los to growers.

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Santford Martin, Jr.

API Appoints Santford Martin, Jr. Head of Publications

WASHINGTON — The American Potash Institute has announced the appointment of Santford Martin, Jr. as head of publications and director of publicity. He comes to the Institute from North Carolina State College where he was publications editor for the development program of the College.

Mr. Martin received his B.A. and M.A. degrees from Wake Forest College, majoring in English and journalism in 1947 and 1948 after three years in military service. From 1948 to 1951 he was director of publicity and department head at Gardner-Webb College. During the next two years he was director of information for the North Carolina Alcoholic Rehabilitation Program of the North Carolina Hospitals Board of Control. Mr. Martin is married and the father of two children. He assumed his new duties in the Washington, D.C., office of the Institute Jan. 1, upon the retirement of R. H. Stinchfield who had held the position since the formation of the Institute in 1935.

CFA Soil Improvement Committee Schedules Fertilizer Workshops

SAN MARINO, CAL. — The Soil Improvement Committee of the California Fertilizer Assn. is sponsoring a series of workshops for fertilizer salesmen and dealers in early 1957. Two workshops will be held in each of these agricultural area cities: Riverside, Fresno, Salinas and Sacramento. The Western Fertilizer Handbook will be the basis for all discussion.

The Riverside programs will be held at Mission Inn, Jan. 9 and Feb. 21, both at 10 a.m. Each of the remaining three workshop programs will be on Feb. 8 and Feb. 21, all at 10 a.m. They will be held at the following locations: Fresno, the Fresno Hacienda, both programs; Salinas, Bertell's Cafe, Romie Lane and South Main St., both programs, and in Sacramento, both workshops will be held in Committee Room 5, Civic Memorial Auditorium, 15th and Jay Streets.

The committee has designated two of its members to act as discussion leaders at each of the eight workshops.

LEAVE OF ABSENCE

ST. LOUIS—Herbert O. Tittel, assistant manager for Monsanto Chemical Co.'s inorganic chemicals division plant at Trenton, Mich., has been granted a leave of absence to attend the spring session of the advanced management program at the Harvard University Graduate School of Business Administration.

SOIL BANK

(Continued from page 1)

ence gained during 1956 paves the way for successful soil bank programs in 1957 and later years—to strike at accumulated surpluses through production adjustment, and to build and maintain soil, water, woodland and wildlife resources which will be needed in the future.

Farmers who signed up for the 1956 Acreage Reserve program already have received more than $236 million for carrying out their contracts.

The sign-up by basic crops in the 1956 acreage reserve was as follows: corn 5,450,000 acres, wheat 5,654,000 acres, cotton 1,113,000 acres, peanuts 43,645 acres, rice 28,003 acres, and tobacco 31,671 acres.

The 12,424 farmers who placed 1.3 million acres in the 1956 conservation reserve can earn a maximum of 17.5 million dollars in cost-sharing payments for conservation practices and annual payments during their 3-, 5-, or 10-year contracts, USDA said.

The department has set a goal of 20 million acres for the conservation reserve for 1957.

Goals, unit rates and approximate national payment rates per acre have been announced for wheat, corn, upland cotton, tobacco and rice allotment land in the 1957 acreage reserve. The goals total 20 to 26 million acres, as follows:

Wheat 12 to 15 million acres, cotton 3.5 to 4.5 million acres, corn 4.5 to 5.5 million acres, rice 175,000 to 225,000 acres, and all types of tobacco 125,000 to 140,000.

In view of the favorable supply-demand situation for both extra long staple cotton and peanuts, there is no plan at the present time to include these crops in the acreage reserve program for 1957.

Growth Regulator Tests Show Good Results in California

SACRAMENTO — Researchers on the Davis campus of the University of California are conducting experiments in the use of growth regulators such as maleic hydrazide and gibberellic acid.

The latter has been used with promising effects on tomatoes. It has been found that flowering can be speeded from five days to two weeks and treated plants produce about four times as many fruits as untreated.

Dr. Lawrence Rappaport, a vegetable specialist, reports that tomato plants treated with the acid weigh 40 to 60% more than the untreated ones but when dried there is no weight differential.

Potatoes soaked briefly in gibberellic acid solutions produced a sprout from every eye instead of having growth concentrated in one spot.

Corn rootworm (magnified 120 times).

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SHELL

Marvin M. Martin, John L. Smith Fill Sales Posts at Beaird

SHREVEPORT, LA.—Marvin M. Martin, formerly district manager of the appliance division of the Monroe Hardware Co., has been appointed manager of LP-Gas and NH_3 dealer storage tank sales for the J. B. Beaird Co., Inc., Shreveport, La., Richard Meisenbach, manager of LP-Gas and NH_3 equipment sales has announced.

Also joining Beaird's LP-Gas and NH_3 equipment sales division is John L. Smith, who has been assigned as sales representative in California and Nevada for Beaird's California subsidiary, with headquarters in Stockton, Mr. Meisenbach said.

Mr. Martin succeeds Charles W. Haynes, who is on official leave of absence while he visits in England. Mr. Martin's wide experience in sales work includes service as material engineer for Arkansas-Louisiana Gas Co. and as sales manager for an air conditioning and heating distributor prior to his association with Monroe Hardware. A pilot in the Air Force during World War II, he attended Texas A&M College and has completed special training in business management and sales.

Mr. Smith, a native of Great Britain, formerly was manager of the LP-Gas department of Tex Oil Equipment Co. in Dallas. He had also previously served as president and general manager of Farm Gas and Equipment Co. in Garden City, Kansas. Mr. Smith attended Underwood College of Commerce and is a graduate of the National LP-Gas Institute in Tulsa.

AERIAL SPRAYING

AMES, IOWA—Harold Gunderson, Iowa State College entomologist, reports that virtually all aerial spraying in Iowa in 1956 was done by commercial aerial spraying firms. He estimates these firms treated over 200,000 acres.

O. Lee Ryser in New Monsanto Post

ST. LOUIS—O. Lee Ryser of Houston has been appointed branch manager for Monsanto Chemical Co.'s inorganic chemicals division sales office at Houston.

The appointment was effective Jan. 1. Mr. Ryser, who has been a salesman with the inorganic division since he joined the company in 1948, was in the Chicago district office prior to being transferred to the Houston territory in 1953. His territory will include Texas and Louisiana. A native of Oklahoma, Mr. Ryser received a B.S. degree from East Texas State College in 1942.

BLUEBERRY OPEN HOUSE

NEW BRUNSWICK, N.J.—The 25th annual Blueberry Open House of the New Jersey Agricultural Experiment Station will be held in Hammonton Jan. 10.

Shell Chemical Corp. Schedules Workshop On Nematodes

NEW YORK—An agricultural workshop on nematodes will be sponsored by Shell Chemical Corp. Jan. 16-17 at the Biltmore Hotel, New York.

The conference is being held for the people involved in nematode work in the 16 states of the company's New York district. Some 300 persons representing agricultural schools, state and federal agencies and agricultural chemical companies, are expected to attend.

F. W. Hatch, manager of the agricultural chemical sales division said that Shell Chemical Corp. is sponsoring the workshop for two reasons: to disseminate technical information that has been developed in recent years on nematodes and their control and to highlight the economic losses caused by the nematode.

Ten scientists, each an expert on a particular aspect of the nematode problem, will comprise the faculty.

W. R. Jenkins, assistant professor of plant pathology at the University of Maryland, will open the workshop with a description of the different nematodes found in the Northeast and a report on the damage they cause.

The afternoon session will be under the chairmanship of M. B. Harrison, assistant professor of plant pathology, Cornell University. During this session, W. F. Mai, professor of plant pathology at Cornell, will give the history of nematode control. The benefits and economics of soil fumigation will be discussed later in the afternoon by A. L. Taylor, principal nematologist in charge of the section of nematology, Agricultural Research Service, U.S. Department of Agriculture.

G. Fassuliotis, nematologist with the USDA at Seaford, Long Island, will head up the morning session on the second day. Talks during that session will be soil preparation for fumigation and the use of D-D and Nemagon soil fumigants. M. T. Hutchinson, associate research specialist of Rutgers University, and C. W. McBeth, head of the department of nematology, Shell Development Co., will give the talks.

The closing session will be under the chairmanship of V. H. Dropkin, nematologist with the USDA's Brookhaven National Laboratory. E. F. Feichtmeir, manager of the product application department of Shell Development Co.'s agricultural research division, will discuss methods of application.

A summary of the workshop will be made by S. H. Benedict, the coordinator of Shell Chemical Corp.'s development program for D-D and Nemagon soil fumigants.

KANSAS STATE APPOINTMENT

MANHATTAN, KANSAS—Dr. Roy L. Donahue, formerly of the University of New Hampshire, has joined the Kansas State College agronomy department at Nagpur, India. Dr. Donahue will be a soils specialist on the International Cooperation Administration-India-Kansas State College team. The K-State group furnishes technical aid to Indian agricultural colleges and research organizations, under an ICA contract. Dr. Donahue is a graduate of Michigan State College with a Ph.D. from Cornell University. He had been head of the forestry department at Mississippi State College before going to New Hampshire University.

DUSTER TO MOVE

HANFORD, CAL.—Crop duster George Willett of Lemoore, Cal., has announced plans to move his crop dusting outfit from Kings County because of a new naval jet station that will impose flight pattern limitations on his operations. He looks toward Coalinga in Fresno County as the new site for his company.

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EXAMPLE 1
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James N. Hinyard

O MARKET POST—James N. Hinard has been appointed director of arket development for American otash & Chemical Corp., according an announcement by Daniel S. insmoor, AP&CC vice president in arge of planning and development. r. Hinyard replaces Dr. A. J. Dirkn who recently was named general les manager of the company's instrial chemicals division. He will ake his office at AP&CC headquarrs at Los Angeles. Mr. Hinyard, o holds B.S. and M.S. degrees in emical engineering from the Unirsity of Texas, at Austin, formerly s with Merck & Co., Inc., at Rahy, N.J., where he was responsible r market research and development new and existing products.

esearch Shows Virus s Cause of Winter illing in Red Clover

ST. PAUL, MINN.—Three years of niversity of Minnesota research ve shown that viruses are an imrtant cause of winter killing in red over. In university experiments, red over plots that were kept free of uses had little or no winter kill-, while plots that were inoculated th three viruses suffered heavy mage.

This research was conducted by gayoshi Oshima, plant pathologist, d M. F. Kernkamp, plant patholot and now assistant director of the nnesota Agricultural Experiment ation.

Mr. Oshima and Mr. Kernkamp culated nursery plots of red clover th three viruses—pea streak, pea saic, pea stunt and a mixture of three—in spring, 1954. They left er plots uninoculated, as "conls."

By October, all plots in the nursery re infected, and by the following ril, practically all of the plants re dead. In a nearby nursery, none the red clover plants had been culated with viruses, and almost % survived.

In similar tests conducted in 1955- 97% of the virus-free plants surd through the winter, while plots culated with viruses had survivals only 51-70%.

7 Fertilizer Firms gister in California

AN FRANCISCO—A total of 327 mmercial fertilizer producers has istered in California for the fiscal r ending June 30, 1957, according he California Department of Agriture. Of these registrants, some are California producers.

gricultural minerals registrants the same fiscal year total 143 of ch 125 are located in California. ven jobbers have registered to this for the fiscal year. Twenty nine liary plant chemicals have regred of which 20 are California s.

Program Announced For Michigan Pesticide Conference Jan. 8-9

EAST LANSING, MICH.—The annual Michigan Insecticide-Fungicide Conference, which will cover such topics as the Dutch elm disease, the spray calendar, control of insects and disease in turf and others, will be held Jan. 8-9, 1957 at Kellogg Center, Michigan State University.

Sponsored by the M.S.U. departments of entomology and botany-plant pathology, the conference is presented in cooperation with the Michigan Insecticide-Fungicide Institute. Clarence Perkins, of McBride, is president of the organization.

One of the highlights of the conference will be the annual meeting of the group at 4:30 p.m., Jan. 8.

The conference will open at 9:30 a.m., Jan. 8 with a welcome by Roy E. Marshall, assistant director, Michigan Agricultural Experiment Station. Mr. Perkins will preside.

The morning session, for the most part, will deal with the Dutch elm disease, featuring reports by Ro Forrest Strong and Richard Fox of M.S.U. and Dean Lovitt, Michigan State Department of Agriculture.

Three speakers in the afternoon will review the spray calendar—Al Dowdy will discuss the timetable for fruit insects; Ed Klos for fruit diseases, and Art Mitchell on fruit thinning and spray machinery. All three are M.S.U. specialists. William B. Drew, of M.S.U., will be chairman for the afternoon session which also will cover results of experimental trials on vegetables and New York reports on apple scab and brown rot control experiments.

The program for Jan. 9 puts Ray Hutson, of M.S.U., as chairman in the morning and Bob VanAntwerp, of Sparta, secretary-treasurer of the Michigan Institute, as chairman in the afternoon. M.S.U. experts slated to talk include Buford Grigsby on controlling weeds in turf, Gordon Guyer on insect control in the Christmas tree plantation, J. R. Hoffman on controlling insects in turf and ornamentals.

Panels of professors and industry leaders will discuss 1956 fruit experimental trials and the Miller Bill. Victor Boswell, U.S. Department of Agriculture, Beltsville, Md., will speak about pesticidal residues in the soil.

ROOT ROT TEST

ST. PAUL, MINN.—Herbert Johnson, University of Minnesota extension plant pathologist, has developed a method for determining the degree of infestation by pea root-rot organisms in any particular field. Soil samples are taken from fields that are being considered for raising peas, and these samples are tested in the green house for root-rot organisms. From these tests, the fields are classified according to an "index."

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CENSUS REPORT

(Continued from page 1)

million tons of plant food. In 1950 they were consuming plant food at the rate of 4.7 million tons.

A rough rule of thumb check on these industry figures bears out the contention that a greater use of fertilizer per acre on the corn crop has paid off in cash dividends to the corn producer in the commercial corn belt. During those years, the commercial corn acreage has been on the decline under acreage allotment controls to obtain price support. Yet—and significantly in this past year—with the lowest commercial corn acreage in many years, the corn belt came through with a record-making crop in terms of yields per acre.

And the more significant factor in this examination of the census bureau report is a comment made available to Croplife by Dr. Russell Coleman, executive vice president of the national plant food institute, who noted that during this period of use increase of plant foods by the corn belt farmers, there had been no real increase in the cost per pound of fertilizer materials since 1946. Going back further, this responsible official noted that since 1939 there had been only a 10% boost in fertilizer costs.

In simple kitchen table arithmetic it must be evident that the fertilizer industry has been contributing to the stability and financial equilibrium of the corn belt farmer when the cost of all other materials which he buys has been rising.

The census bureau in this report also reminds that purchases of fertilizer materials vary by regions. Heaviest disbursements by farmers for plant foods are in the southeast where 79.2% of farms report expenditures for these purposes, whereas in the mountain states only 27.5% of farms reporting have bought commercial fertilizers.

This wide variation obviously points up the importance of fertilizer in the South Atlantic cotton belt—a condition which probably will supply an educational background for farmers as they shift over from a cotton economy to an expanded production of livestock. This move would or could mean heavy use of commercial fertilizer in the development and maintenance of cover and pasture crops for that expanding livestock economy.

For the mountain states with their low level of fertilizer use, it might appear that this region can become a sales target area—or at least one for educational promotion of the usefulness and cost-reducing potential of fertilizer in developing better pasture lands for livestock.

As Dr. Coleman viewed the census bureau report, he went even further to state that even with the implied larger use of commercial fertilizer by farmers, the new higher levels of use are still far short of the optimum.

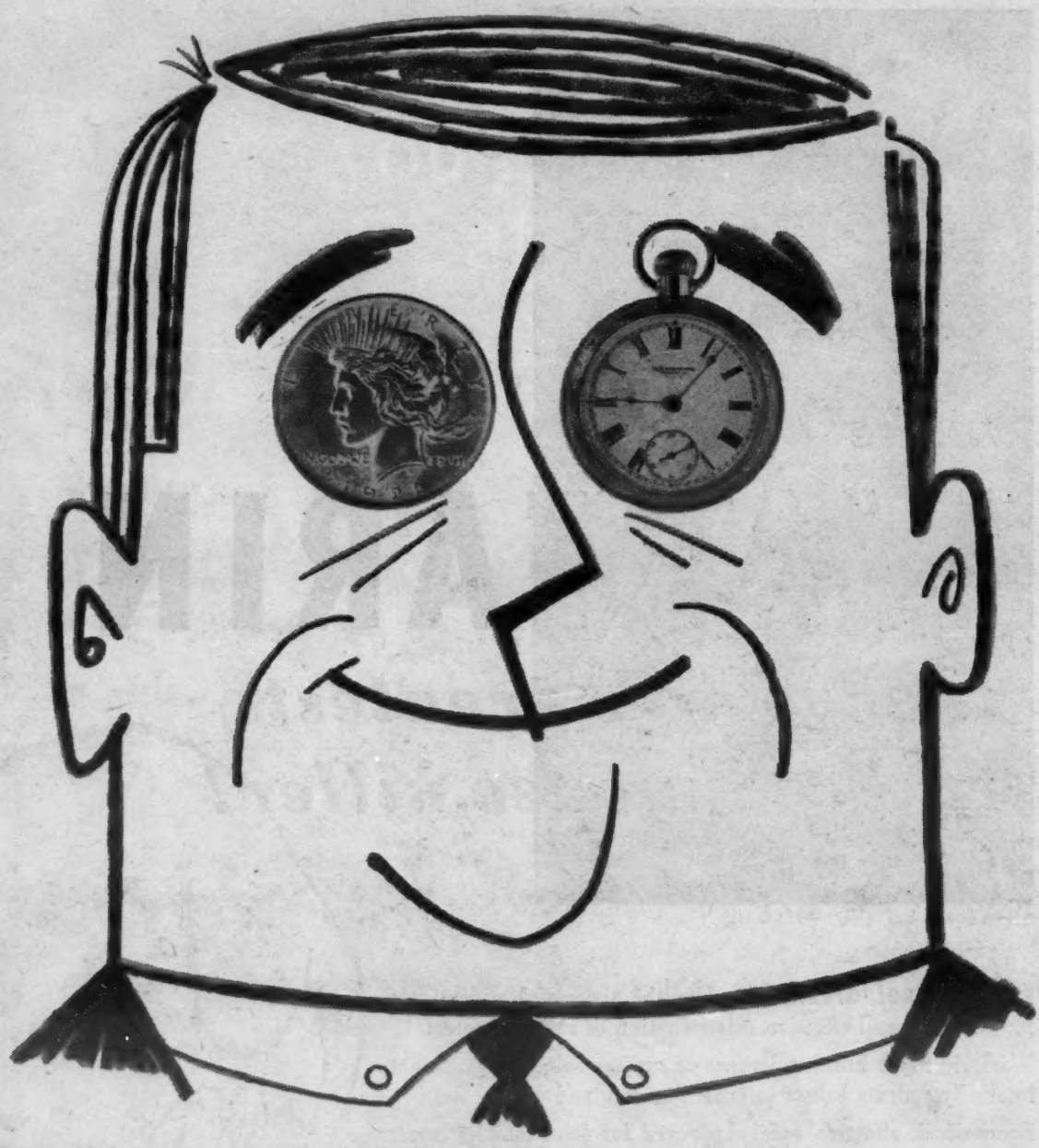
He stated with conservative overtones that the same farm communities could use twice as much as now being reported by the census bureau and this would still be less than the economic optimum.

For those who may have missed reports on Dr. Coleman's ideas on the effect of adequate and economic use of plant food materials in the farm communities, it should be repeated that he has often emphasized that the escape for the farmer from the cost-price squeeze is through reducing the per unit cost of his crop. This means that eventually those farmers will have to step up the use of commercial plant foods to the point where costs per bushel or per pound have been reduced to keep in line with what the market can or will pay for that crop.

Dr. Coleman is talking in practical terms of freedom of the farmer from government controls over acreage and through price supporting mechanisms. This interpretation of Dr. Coleman's ideas is in no sense an inferred criticism of price support programs or those levels of support. He merely says that the farmer has within his own capacities the means whereby he can bring his ledger in balance and, more than that, make the final accounting show a profit.

Another aspect of the Coleman comments is that of warning to the industry—that there is a big job ahead to sell adequate-optimum use of plant foods to the growers of the crops. Dr. Coleman is talking good sense for those who will stop to read.

This census bureau report covers Volume II chapter IV of the 1954 census of agriculture. It is available from the superintendent of documents, Government Printing Office, Washington 25, D.C., at 25¢ per copy.



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CORN PROGRAM

(Continued from page 1)

27% below the level finally enacted by the Congress. It is 36% below the acreage grown during the years 19 to 1956. This cut is so sharp that there will be practically no compliance. Furthermore, few farmers will be able to take the even greater cut which would be necessary to come into the soil bank, which many of them wish to do. Consequently with virtually no soil bank and no corn program, corn production could be excessive and corn prices very low. Livestock production might be unduly stimulated. The whole feed grain livestock balance might be upset."

The acreage allotment program has not worked, Mr. Benson said. "In the past, less than half of the corn farmers have complied with their allotments. Marketing quotas will not work for corn, since about three-fourths of the corn is not marketed as corn but is fed on the farms where it is grown."

"The allotment program brings about increased stocks of corn, which under the law must result in lower acreage allotments and lower support prices. This law leads to an upward spiral in stocks and a downward spiral in price. Acreage allotments continue to shrink and compliance continues to drop," he said.

"The base-acreage program, which a majority of the farmers voted, would have given promise of much greater compliance, an effective soil bank, and a better feed grain livestock balance.

"There have been proposals to patch up the old allotment program and continue it. The time has come to recognize that this program is a failure and to move in the direction of workability," Mr. Benson concluded.

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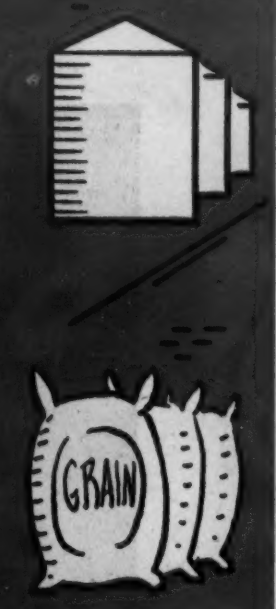

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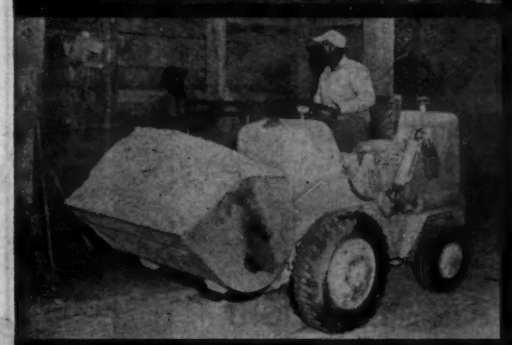

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The entire hydraulic control of the model HA bucket — tip-back, raise, dump, lower — is handled by a single conveniently located lever. It's the simplest, easiest bucket control available. Smooth hydraulic brakes, full anti-friction steering mechanism and torque-converter drive makes the model HA easy to operate at high output rates the full shift.

Processing and manufacturing plants of all kinds report that the new model "PAYLOADER" tractor-shovels are not only a great improvement over earlier models but are also way ahead of other front-end loaders in design and productivity — can handle more tons of material per hour than heavier machines with larger engines. The exclusive 40 degree break-out and tip-back of the bucket at ground level gets and holds big loads close and low without spilling. Hydraulic load-shock-absorber smooths the ride and permits higher travel speeds. The low-mounted boom arm design makes operation faster, safer and easier because driver cannot get caught in mechanism and his line of vision is clear. Greater versatility is another valuable feature for many owners who use the floor-sweeper, fork lift, pusher forks and other available attachments that help make the model HA one of the most profitable machines any plant can own.

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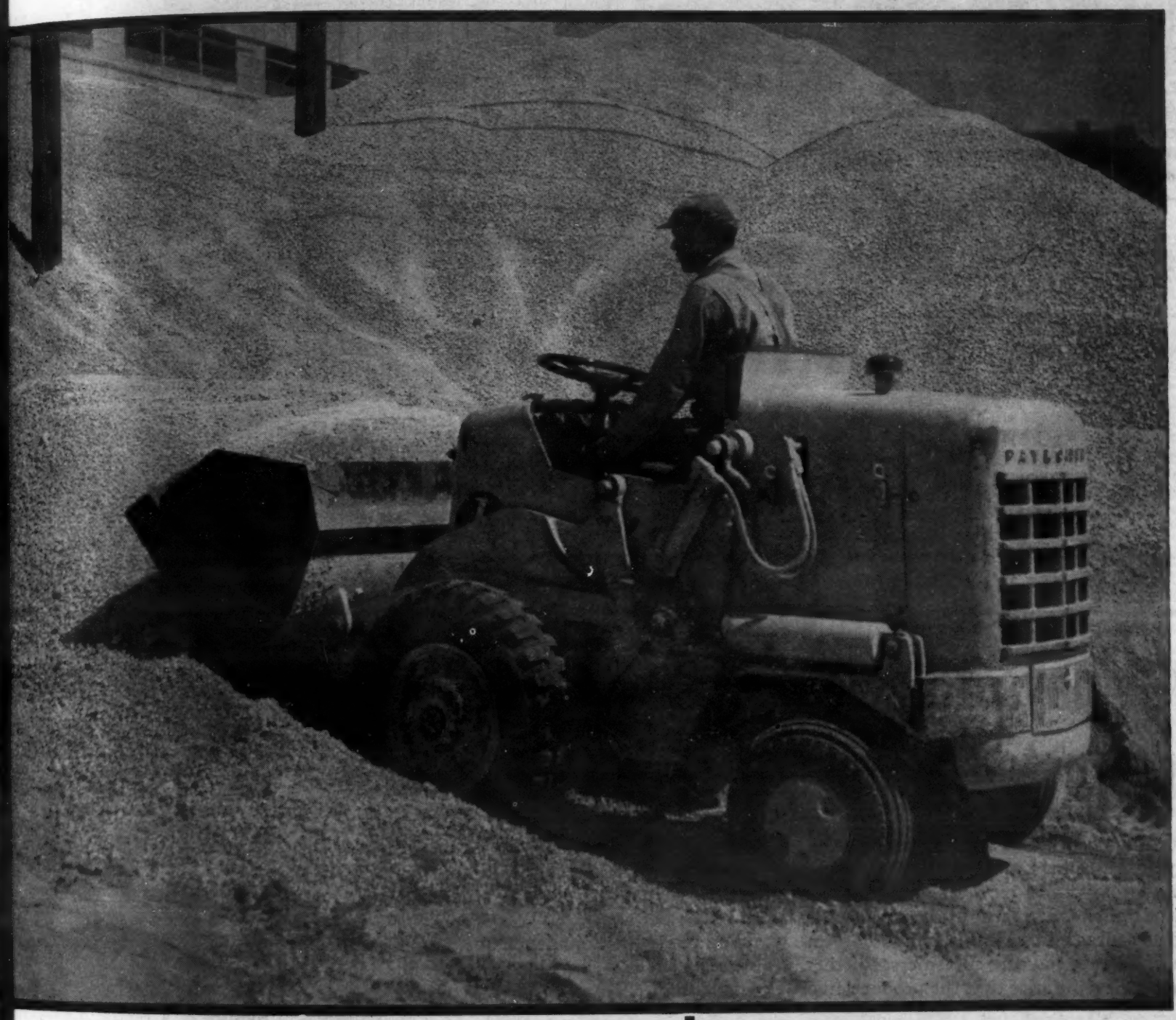

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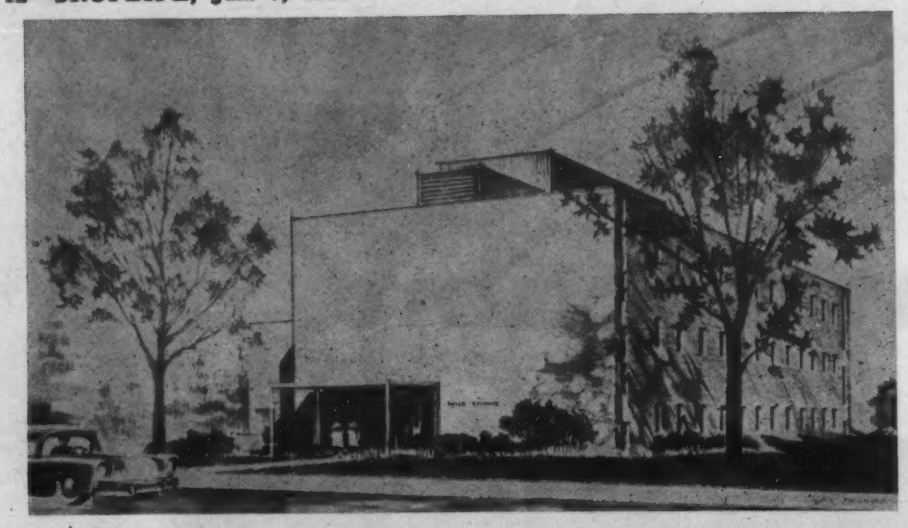

MINNESOTA SOILS BUILDING UNDER WAY—The University of Minnesota's new soil science building, architect's drawing of which is shown here, is now under construction. Expected to be ready for occupancy in 1958, the structure will house classrooms, laboratories, and administration offices of the entire department.

Construction Begins on New Soil Scienc Building for University of Minnesota

ST. PAUL, MINN. — Actual construction has begun on the University of Minnesota's new soil science building located on the St. Paul campus between the present Forestry and Plant Pathology buildings.

The new facility, when ready for use in 1958, will provide space for the various areas of soil science, including soil chemistry, physics, microbiology, survey and mapping. The Minnesota soil testing service and soils extension specialists will also be housed in the structure.

According to Dr. William P. Martin, head of the department of soils, the new building will be a four-story brick structure, 46x142 ft. in size. About half of the lower floor will be underground, and in addition, there will be a wing 27x41 ft. on the ground and first floor levels. The wing will also rise to the second floor level, provided funds currently being requested from the state legislature are granted. The legislature had earlier granted $900,000 for the project, but one floor of the wing, as well as certain other facilities, were omitted when contracts exceeded this original sum, the University states.

Descriptive information concerni the new soils building states th the structure will encompass som 34,000 square feet, of which 20,4 square feet will be useable clas room, laboratory, office and stora space.

On the first floor of the wing w be an auditorium type classroo The second floor, if completed, w consist of a reading and semin room, in which smaller classes w also be held.

Student laboratories, offices a research laboratories will be locat in the larger part of the buildi There will be a part basement f termination of incoming electric heating and telephone installations addition to the four stories.

The ground floor will house, amo other things, the Soil Testing Ser ice. There will be facilities for r ceiving samples from farmers, f drying and preparing them, for an lyzing their fertilizer needs, and f making recommendations. Also cated on the ground floor will be radioisotope laboratory and counti room, soil and plant preparati rooms, and special laboratories f soils research such as cold roo plant growing room and dark roo

On the first floor will be the ma soils departmental offices, a stude reception room and student labor tories, as well as a small conferen room, all in addition to the lar classroom in the wing.

The second floor will consist research facilities for soil micro biology and soil chemistry. Speci laboratories for soil biochemistr research, chromatography, incuba tion of microorganisms and a ste ile room will facilitate work these areas.

Laboratories for soil physics a soil survey, classification and morp ology will be located on the thi floor. A small cartographic room a shop will serve special needs these areas.

The general layout of the buildi consists of a central hallway, sep rating laboratories on one side fr offices on the other. Laboratories w be 23 feet in one dimension a multiples of 10 feet in the other mension.

Electrical, water, gas and venti are located in enclosed vertical duc bordering the central hallway. The terminate in a penthouse above fourth floor where mechanical equ ment is located. All the hoods separately vented.

It is estimated that approximat 60% of the space will be used dire ly in the teaching program includ graduate research. Agricultural periment Station research, the ag cultural extension service and Minnesota soil testing service w account for the remaining use.

OREGON FARM RECEIPTS

PORTLAND, ORE.—Oregon's c receipts from farm marketings in first nine months of 1956 tota $289,811,000 or 3% more than in corresponding 1955 period, accord to the Agricultural Marketing S vice here. Prices received by farm during the nine month period measured by prices received in averaged 2% below last year, but heavier volume of marketings brou the total cash receipts above a y ago.

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MINNEAPOLIS, MINN.—*212 Sixth St. South*
NEW YORK, N. Y.—*80 Broadway*
OMAHA, NEB.—*6th Floor, WOW Building*
PASADENA, CALIF.—*330 Security Bldg.*
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Special Retail Section

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A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW

OKLAHOMA DEALERS MEET—Dr. Frank Boyd (left, above), agronomist, Virginia-Carolina Chemical Corp., tells his audience attending the Oklahoma fertilizer dealers' conference that "fertilizer needs of all U.S. soils fall into three basic ratios and matching grades." He called the nitrogen need a continuing one and advised rates of phosphate and potash to compensate in proportion to their absence in the soils, as shown on the charts he prepared to illustrate his points. At the right, William J. Sallee, county agent of Greer County, Oklahoma, shows Jack Tyler, Dowell-Tyler Fertilizer Co., Stillwater, Okla., (center) a full page newspaper ad prepared by dealers in his county who have organized to do cooperative advertising. Mr. Sallee, one of the speakers at the conference, urged dealers to organize county associations. Mr. Tyler urged dealers to sell fertilizer in terms of increased crop yields, not cost per ton.

OKLAHOMA DEALERS ADVISED:

Dollars-and-Cents Story of Fertilizer Use Is Key to Better Merchandising

By EMMETT J. HOFFMAN
Croplife Merchandising Editor

Dealers should promote fertilizer in terms of dollars-and-cents benefits from increased yields, rely on demonstrations to get the dollars-and-cents story across to the farmer and organize a county-wide association to merchandise fertilizer.

These were the suggestions of three speakers who discussed merchandising aspects of fertilizer at the recent Oklahoma fertilizer dealers' conference held at Oklahoma A&M College, Stillwater. The three are Jack Tyler, partner in the Dowell-Tyler Fertilizer Co., Stillwater; William J. Sallee, county agent of Greer County, Oklahoma; and Gaylord Hanes, assistant extension agronomist, Oklahoma A&M College.

The dealer should sell fertilizer to the farmer in terms of crop yields, not in how much it costs per ton, Mr. Tyler said.

Fertilizer gets the main merchandising attention at the Dowell-Tyler firm, followed in order by other farm chemicals and allied products, according to Mr. Tyler. He told the conference, which was sponsored by the Oklahoma Plant Food Educational Society, that his firm is one of only 20% in Oklahoma handling fertilizer that places chief emphasis on fertilizer sales and application.

"Fertilizer is too often dispensed, not sold," said Mr. Tyler in explaining why his firm has adopted the goal of becoming a completely equipped headquarters for all leading grades and kinds of fertilizer, application equipment (for sale or rent) and the latest information about recommended practices and proper use.

"We offer a complete soils and crops service to the customer," stated Mr. Tyler. "We work closely with the farmer. Every farmer can use assistance with his fertilization program. For example, he is most anxious to get help when he takes his first soil sample. Here is where the dealer can perform a real service. We furnish the soil bags free for soil samples. We urge the farmer to use the proper sampling tools.

"The best time to sell fertilizer to a farmer is when he has time to listen to you. Tell him how to use fertilizer, where to use it and when. Relate the cost of fertilizer to the farmer in terms of increased crop yields. This is the single most important element of selling fertilizer."

The Dowell-Tyler company offers a spreading service and has two trucks available. Each has a 7-ton capacity. The minimum spreading order per delivery is two tons.

Ten grades of fertilizer are handled by the firm: two straight phosphates, one nitrogen, one potash and six mixed fertilizers.

Breakage of bags and salvage of fertilizer spilled from bags present the biggest warehousing problem, said Mr. Tyler. "We try to salvage all spilled fertilizer and this is sometimes sold at a discount or we use it on our

(Continued on page 22)

SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

Another year has slipped by, sooner than most of us realized. But the calendar cannot be denied and another year of selling and service to the customer lies ahead.

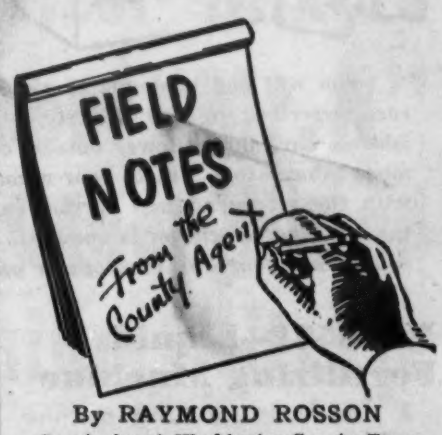
To many retailers the past year has been a hectic one. They say there is no such thing as a "normal" year any more. However, it would be safe to say that generally farm chemicals retailers have made progress, despite some abnormal and difficult sales situations. And there is reason to feel that more progress will be made in merchandising farm chemicals in 1957. Of course, there will be the usual impediments to progress, of that we can be sure. Among these impediments we can list the familiar items of price cutting, unprofitable special deals, loose record-keeping, lack of planned advertising, lack of proper incentives and training for sales personnel, loose credit, sloppy stock control practice, carrying too many lines, tying up too much capital in slow moving stock and not enough turnovers per year.

The list is not complete; there are many others which can slow progress of retailers. Whatever the impediment, now is the best time of the year for retailers to take a critical look at all phases of their operations, spot the weak ones and do something to correct them and open the way for more profits in 1957.

Farm Financing Changes Observed

There are changes underway in the farm financing pattern, according to a north central regional extension bulletin prepared by Purdue University.

(Continued on page 23)



By RAYMOND ROSSON
County Agent, Washington County, Tenn.

A recipe for the new year—In your home mix 2 parts of love, one part confidence, one part courage, one part security, add a dash of humor, flavor with joy and season with consideration, respect and pride.

In your church place one large square of sincerity, two heaping cups vision and three measures of faith and sift these ingredients until a smooth, even texture results.

In our schools, let's place three cups practical knowledge, two parts ambition, one full measure of self-reliance, then fold in two parts wisdom, and stir constantly until the ingredients blend.

Combine all three mixtures; add equal portions of active citizenship. Be sure these ingredients are crisp, fresh and of the highest quality; since the success of this recipe largely depends upon them.

Place finished mixture in container of freedom, and warm in oven of understanding. When this dish appears ready, cool and cover entirely with a smooth blend of happines, peace and contentment.

This dish which Americans can enjoy daily, would be considered a "rare treat" in many countries of the world.

Kansas Dealer Buys Implement Company

NORTON, KANSAS—The C & H Irrigation Co., fertilizer dealer here, has purchased the Norton Implement Co. from Cyril Vancura. Herb Hoskins and Clarence Collins, managers of the C & H firm, said the implement division will continue to be operated at the present location. Gordon Fought is in charge of it.

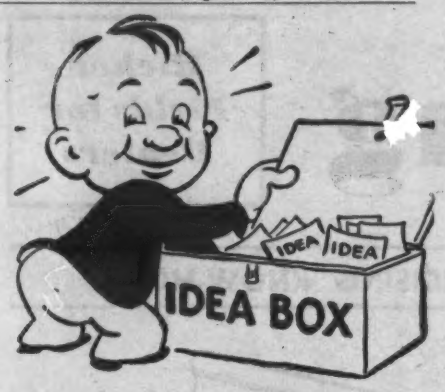
"We're going to operate it entirely separate from our irrigation and fertilizer business," the new owners said. "We won't slight our irrigation and fertilizer business and we'll set up the implement business in order to maintain a high level of service."

C & H announced a change in staff. Carl Nuzman has resigned and has moved to Topeka, Kansas, where he will continue in the irrigation business.

Fertilizer Doubles Oat Yields in Nebraska

LINCOLN, NEB.—Fertilizer has doubled oat yields consistently over a period of seven years in University of Nebraska outstate tests on eastern Nebraska farms.

The experiments show that oats without fertilizer averaged 25 bu. while yields averaged 50 bu. when fertilizer was applied, according to soil tests. The fertilizer costs averaged $4 and $8 per acre, states M. D. Weldon, extension agronomist at the university.



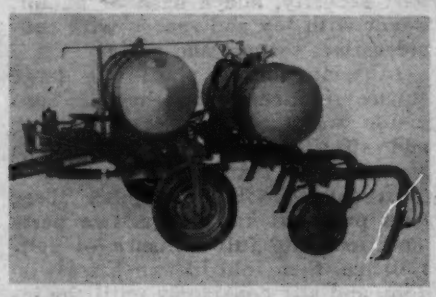
What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6521—Liquid Fertilizing Machine

A new liquid fertilizing machine, which permits the simultaneous subsurface application of anhydrous ammonia and other liquid fertilizers such as phosphates or complete solu-



tions has been developed by the Dempster Mill Mfg. Co. The applicator, named the Dual LiquiJector, consists of the Dempster No. 500 3-point hitch hydraulic lift carrier whereby a solution tank with metering pump is mounted on the No. 500 carrier and the 150-gal. anhydrous ammonia tank with a flow valve control is mounted to the square bar. This permits the distribution of both solution and anhydrous ammonia to be deposited under the soil in one operation. Different types of the company's liquid solution pumps and tanks can be furnished for handling either corrosive or non-corrosive material. Principal advantages claimed for the applicator are the time and labor savings resulting from the simultaneous application and the even distribution at one time of the two types of liquid fertilizers. By using this machine additional NH_3 can be injected into the soil to supplement the nitrogen content with any of the other liquid fertilizers and nitrogen-free solutions can be used to advantage in the second unit, company officials claim. Secure details by checking No. 6521 on the coupon and mailing it.

No. 6523—Compost Grinder

Literature concerning the use of a compost grinding machine for garden or small farm use has been prepared by the W-W Grinder Corp. The machine, which is available for marketing through retail dealers, mills and screens both green and dry materials, breaking them into tiny quarter size pieces. Its screen also sorts out rocks and other undesirable material from the raw compost. Compost grinding screens come in various sizes. The most practical for home use is said to be a portable 2-X model, equipped with a 2½ h.p. retrievable starter engine. The larger 4-EV model is suitable for commercial use, and comes with a detachable elevator, so that either the grinder or the elevator can be used independently of the other. Models come equipped with either a gasoline engine or electric motor. Check No. 6523 on the coupon and mail it to Croplife to secure complete details.

No. 6522—Wall Chart

Up-to-date instructions for the safe unloading and handling of sulphuric acid are presented on a new 17 by 22-in. wall chart available through the industrial chemicals division of the Olin Mathieson Chemical Corp. The chart is printed in red and black on special moisture-resistant paper in easy-to-read form, according to company officials. It describes step by step the proper methods for pump unloading and air unloading of tank cars, with special attention to cold weather procedure. Diagrams of piping arrangements are shown for both methods, as well as a list of safety "do's" and "don't's." The chart also includes instructions for preparation of tank cars for the return trip to the manufacturer. To secure the wall chart check No. 6522 on the coupon and mail it to Croplife.

No. 5602—Conversion Kit

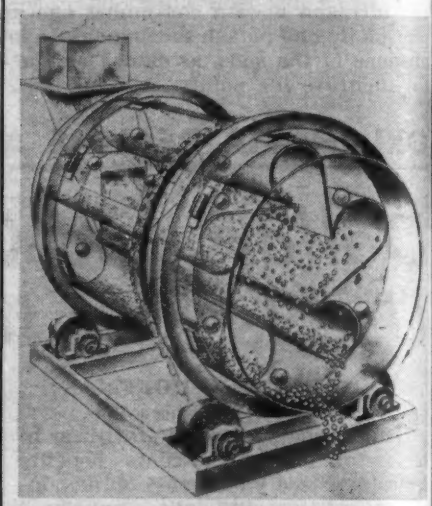
Instant change-over of dust seed treaters to handle ready-mixed liquid seed treating chemicals is now possible through use of a new conversion kit manufactured and sold by Panogen, Inc. Chief advantages claimed for the kit are that it requires only a few minutes to install, converts all standard dust treaters so they can be used for applying liquid Panogen, permits accurate regulation of dosage and eliminates dust. The kit includes all the components needed to convert a dust treater to Panogen operation. Each kit is accompanied by a simple chart for computing the correct rate of flow so that proper dosages are easily maintained. The chemical will not freeze or burn. Secure more complete details by checking No. 5602 on the coupon and mailing it.

No. 6515—Dispersant

Orzan P, a new member of a group of surface-active, lignin sulfonate chemicals for industry, is now being marketed by the Crown Zellerbach Corp. The product has the property of precipitating readily from solutions and clinging to fibers or other materials present, company officials say. A spray-dried powder, the product may be precipitated from even dilute solutions by the addition of alum. Recommended uses are: as a binder for fibers, retention of fines, an emulsifier, an emulsion stabilizer, a flocculant and a dispersant. Applications in the insecticide field have been made successfully, according to company officials. They add: "It is possible that the farmer, as well as the chemist, will find Orzan useful. A large amount of work has been done by agricultural researchers at Oregon State College, Washington State College and the University of California, as well as private industries, to investigate Orzan's effect on soils and plants. A number of potential applications have resulted. It is known that the product may be used to improve soil structure, improve water penetration, add organic matter to the soil, supply additional nutrients, improve growth of certain crops and minimize wind erosion." Secure more complete information by checking No. 6515 on the coupon and mailing to Croplife.

No. 6520—Granulator

A new type of granulator, the Sackett Star Granulator, has been introduced to the fertilizer industry, according to officials of the A. J. Sackett & Sons Co. Featuring what is called a new concept in granulation equipment design, the granulator is equipped with five curved baffles on the interior of the machine. Action by these baffles violently rolls and tumbles the material through the machine, substantially



increasing product recovery, efficiency and reducing the costs of production, according to Sackett. Several of the granulators already are in action in the industry and were the subject of a discussion by Albert Spillman, Fertilizer Manufacturing Cooperative, Inc., at the recent meeting of the Fertilizer Industry Round Table in Washington, D.C. The Sackett company indicates U.S. and foreign patents are pending. The accompanying photograph illustrates the design and action of the granulator. For further information please check No. 6520 on the coupon, clip and mail it to Croplife.

No. 6516—Garden Duster

A permanent, re-usable plastic garden duster is being marketed by the Kalo Co. Company officials say that the duster has no inner tube to clog and can be used conveniently with one hand. They continue: "Garden Duster is filled with Plantgard 1% Rotenone-copper garden and rose dust to fight many chewing and sucking insects and fungus diseases in the garden." A caption on the duster reads: "Leaves no dangerous residue when used as directed." To secure more complete information and details of price in quantity lots, check No. 6516 on the coupon and mail it.

No. 6517—Deer Repellent

A deer repellent is now being manufactured by State College Laboratories, a subsidiary of the J. C. Ehrlich Co., under the trade name of College Brand Magic Circle. The new product is claimed to be a foolproof, easy-to-use chemical that is mixed in proportions of one part to 100 parts of

Send me information on the items marked:

- ☐ No. 4064—Wire Screens
- ☐ No. 5595—Scale
- ☐ No. 5602—Conversion Kit
- ☐ No. 6512—Paper Brochure
- ☐ No. 6513—Conveyor Cover
- ☐ No. 6514—Film Catalog
- ☐ No. 6515—Dispersant
- ☐ No. 6516—Garden Duster
- ☐ No. 6517—Deer Repellant
- ☐ No. 6518—Adsorbents
- ☐ No. 6519—Spreader
- ☐ No. 6520—Granulator
- ☐ No. 6521—Liquid Machine
- ☐ No. 6522—Wall Chart
- ☐ No. 6523—Compost Grinder

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS PERMIT No. 2 (Sec. 34.9, P. L. & R.) MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67

Reader Service Dept. Minneapolis 1, Minn.

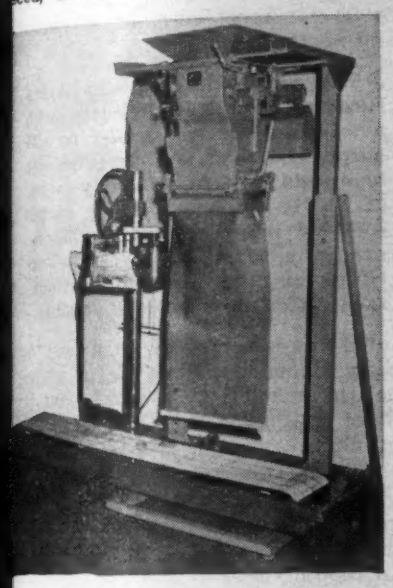
Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

water and applied as a spray. It can be used by itself or mixed with almost any ordinary insecticide and fungicide. According to the company, property owners can spray a ring around their shrubs, grain fields, gardens or orchards, and deer—and in most cases—beavers, woodchucks, raccoons and skunks will keep away. One spray is claimed to last for 30 days. One- and 5-gallon containers are being marketed. Check No. 6517 on the coupon and mail it to secure more complete details.

No. 5595—Scale-Sewing Machine

The Burrows Equipment Co. announces a new combination bagging scale and sewing machine. The Apex bagging scale combines weighing and filling in one semi-automatic operation. The scale will weigh grain, feed, seed, chemicals and most types of



free flowing material at the rate of six to ten bags per minute, it is claimed. The unit is available with either fixed style bag clamp, or adjustable clamp to handle bags from 25 lb. to 200 lb. The scale is mounted on a steel frame which is adjustable for different height bags. The frame is mounted on casters. It is independent of the sewing machine and conveyor. The sewing machine with conveyor belt will sew paper, cloth and burlap bags. The sewing head is adjustable to any size bag up to 40 to 48 in. The conveyor is 5 ft. long, powered with a heavy duty gear head motor and chain reduction operated by foot pedal control.

No. 6519—Combination Spreader

The Highway Equipment Co., Inc., announces its "New Leader" engine driven combination spreader. The announcement states: "It affords a new

convenience to the driver by the very accessible engine location, also a larger engine with more horsepower for spreading maximum tonnage of lime and other agricultural products. A new direct drive from the engine direct to the distributor discs eliminates the use of chains, sprockets, idlers and some bearings." For further information check No. 6519 on the coupon and mail it to Croplife.

No. 6518—Adsorbents

The Floridin Co. has produced a booklet describing its products for agricultural chemical processing. The products are trade-named Diluex, Diluex "A," Florex and Florigel. The products' action in agricultural and household pesticide formulations is outlined. The use of several products as adsorbent carriers in the formulation of granular pesticides is described as is the formulation processes in frequent use. Check No. 6518 on the coupon and mail it to secure the booklet.

No. 6512—Paper Brochure

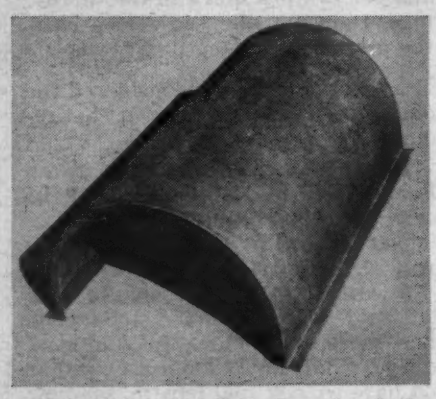
The Olin Mathieson Chemical Corp., forest products division, has prepared a brochure explaining how Kraft paper is made. The division produces multiwall bags and other paper bags and container products. The brochure provides company information and lists principal products, including its agricultural chemicals. Secure the brochure by checking No. 6512 on the coupon and mailing it to Croplife.

No. 6514—Film Catalog

The manner in which the steel industry contributes products to the fertilizer industry is depicted in one of several films available through the United States Steel Corp. The film, "The Waiting Harvest," is one of many listed in a new catalog describing motion pictures distributed by the company. Secure the catalog by checking No. 6514 on the coupon and mailing to this publication.

No. 6513—Conveyor Cover

The K. E. Savage Co. has designed and is providing a fiber glass conveyor cover, made in 5-ft. lengths. Company officials say that the cover is being used in fertilizer plant installations because the material is impervious to chemicals and can readily be adapted for use with any corrosive product. The cover is made in a half-circle having an 18-in. radius. There is 4 in. of straight section on each side and a 2-in. heavy flange extending outward



and running the 5-ft. length of the cover. An internal flange is provided at each end of the cover to give additional stiffness. The cover was designed to use with 18-, 20- and 24-in. belts, but it can be made to accommodate wider belts. Company officials state that the units are ideal to cover conveyors running from one building to another to keep out rain. Secure more complete details by checking No. 6513 on the coupon and mailing it to Croplife.

No. 4064—Wire Screens

The Cleveland Wire Cloth & Manufacturing Co. has prepared a new two-color illustrated folder which combines a brief history of the company with partial cataloging of the most popular wire screen items. The folder is entitled, "Quality Wire Screen," and may be obtained by checking No. 4064 on the coupon and mailing it to this publication.

IRRIGATION PIPE

GARDEN CITY, KANSAS—Due to the great drouth in southwestern Kansas and other nearby states, the Brown Supply Co.., which opened for business in Garden City, Kansas, Oct. 1, is producing from 500 to 600 sections of concrete irrigation pipe a day.

The Bulletin Board

LATEST INDEPENDENT SURVEY SHOWS

More Fertilizer Mixers Prefer Spencer "Mr. N" Than Any Other Brand Of Ammonium Nitrate

The South's leading fertilizer manufacturers help take the guesswork out of deciding which Ammonium Nitrate to stock:

In a recent independent survey, 241 leading fertilizer manufacturers were asked this question: "Which brand of Ammonium Nitrate do you prefer?"

Results of the survey showed that Spencer "Mr. N" Ammonium Nitrate is the outstanding favorite of the men who know fertilizer best—the South's own fertilizer manufacturers!

In fact, among manufacturers listing a single preference, "Mr. N" got more votes than the next two highest ranking brands combined — and the questionnaire listed all nine leading brands of Ammonium Nitrate sold here in the South.

What Does This Mean to You?

Because the results of this survey help farmers take the guesswork out of fertilizer buying, more and more of them will be coming to you for Spencer "Mr. N." And Spencer is going to tell practically **every farmer in your area** about the survey, in leading farm magazines and on the top farm-radio shows:

In February, there will be full-page advertisements in **The Progressive Farmer** and **Farm and Ranch** magazines—ads that tell the story of the independent survey that named Spencer "Mr. N" the South's top brand.

In March, there will be **more** advertisements that will keep on building preference for Spencer "Mr. N." But that's not all!

During the peak of the fertilizer selling season, leading farm-radio directors throughout the South will be giving "Mr. N" their personal endorsement! Yes, starting January 14, farm-radio shows will be helping Southern dealers sell Spencer "Mr. N" over all these stations:

WBT.....Charlotte, N.C.
WSM.....Nashville, Tenn.
WSB.....Atlanta, Ga.
WHAS.....Louisville, Ky.
WBAM.....Montgomery, Ala.
KALB.....Alexandria, La.
WMC.....Memphis, Tenn.
WAPI.....Birmingham, Ala.

And don't forget that thousands of Southern farmers are **already** sold on Spencer "Mr. N"—and the results they get show why:

For example, Anthony Bittel of Owensboro, Kentucky, was averaging 60 to 70 bushels of corn per acre. But with the help of Spencer "Mr. N", his yield nearly doubled, averaging 100 bushels per acre.

Then there's Buck and Bill Royster of Five Points, Alabama, who tested two identical 7½ acre tracts in their cotton field. They put down $4.54 worth of nitrate of soda per acre on one, and $6.04 worth of Spencer "Mr. N" on the other. The 7½ acres of soda cotton yielded six bales. But the "Mr. N" cotton yielded **ten** bales!

Those are the kind of results that build demand for "Mr. N"—and Spencer is going to use lots of result stories like these in their 1957 advertising!

Combine this with the survey advertisements and you can see why so many dealers are going to feature Spencer "Mr. N" this year!

Remember, **right now** is the time to get ready for the extra sales and extra profits Spencer will be sending your way. So stock up on the brand of Ammonium Nitrate that's preferred by farmers and fertilizer experts—the brand that **helps** you sell with the biggest magazine and farm-radio advertising campaign in company history: Spencer "Mr. N" Ammonium Nitrate Fertilizer!

Spencer Supplies the Nitrogen

To Fertilizer Dealers ONLY

SPENCER CHEMICAL COMPANY
609 Dwight Building
Kansas City 5, Missouri
Gentlemen: I am a fertilizer dealer not presently receiving Today's Fertilizer Dealer magazine. Please send me a free subscription without obligation.

Name.....
Firm.....
Post Office.....State.....

Doing Business With

Oscar & Pat

By AL P. NELSON
Croplife Special Writer

It was 10 a.m. one winter morning, and pudgy, economical Oscar Schoenfeld bent down from his desk chair, picked up a paper clip from the floor and deposited it in a big glass bowl on his desk. Irritably, he looked over at his partner, tall, lanky Pat McGillicuddy, diligently reading a recent copy of Croplife.

Pat had been reading Croplife and other magazines for about 45 minutes this morning, and to Oscar the reading of any periodical save perhaps the Bible, was a downright waste of time, especially during business hours.

Just as Oscar was about to explode on this subject, Pat said, "Oscar, what do you think of this? Emmet Hoffman covers a convention down in Okahoma and he quotes an extension man down there, Harry Canup, as saying that a salesman is a person who helps people want things, to be and do something because it benefits them. That is exactly what I believe."

Oscar bit his lips. "Ach, there are too many people trying to sell all the time. What is the use of selling if you can't collect—like you?"

"But selling is what keeps the wheels of business going, Oscar. The minute you get to a point where people don't want anything, you are in trouble."

"People buy too much and don't know how they will pay for it!" Oscar retorted. "If they got out of a job on Saturday, they would start spongin' on their relatives on Monday. Who wants to live like that? Not me."

"Now, Oscar, you really don't mean that." Pat was in a defensive mood. "Everytime somebody invents something useful and people want it, there is more work and more money for lots of folks. It takes money to make this world go around."

"Ya," growled Oscar, "and too much of the money is going right past our door and not coming in here. Ach, I wake up nights thinkin' about all them farmers got so much of our hard cash—and at no interest, too."

"No, spending makes money," persisted Pat. "Look here. It says in Croplife about a farmer in Texas who got $42 in extra crops for every $11 he spent for fertilizer. He spent some money, and he collected four times what he spent."

"Ach, and I'll bet that poor fertilizer dealer who sold the fertilizer is still waiting for the money—just like we have to wait for our money, because you never go out and collect!"

Pat's blue eyes took on a steelly glint. "I collect when I think it's time to collect, Oscar. I don't believe in hounding a man for a bill, even before he gets the fertilizer in the ground."

"Why not?" asked Oscar truculently. "Look at the liquor store downtown. When the farmers go in and buy liquor, they have to pay spot cash. And lots of them are farmers that owe us money. Ach, I watch them fellers, and Minnie does, too, when she shops for groceries. We see what they do with their money."

Pat seemed disgusted. "But, Oscar, in Iowa to get hard liquor you have to get it at a municipal liquor store. That's the law. And who ever heard of buying something from the government and charging."

Oscar's face went purple. "Well, the government has the right idea. Ach, they are the schmart ones. Get the cash. What's wrong with that? Selling, ach you could run up a million dollars in paper sales and if you didn't collect you would be kapoot in a hurry, I can tell you."

Pat was silent for a moment. "Oscar, credit is what is developing this country, making us the most comfortable nation in the world. Would you want to go back to the old outhouse days where you had to walk 200 feet through snowdrifts to reach the little place, and then come back to the house with an armful of snowy wood for the kitchen stove?

"No, you and most farmers have water and sewage systems in the house today, and lots of heat. You can take off your mackinaw when you go into your bathroom today. You couldn't do that in the little house in 20 below weather."

"I did it lots of times and it wasn't so bad," Oscar burst forth. "And I would do it again if I had to. I wouldn't pile up a lot of debts just so I could sit and fall asleep in the bathroom. I like to get up and get to work quick in the mornings. I am not like you—sleep half the morning."

Pat said nothing. He considered the conversation too one sided to resume.

"Help the customer!" went on Oscar. "Help him do what—stick us for a bigger fertilizer bill on credit? I don't believe in giving my money away that easy. I work hard for it!"

"I work hard for my money, too," Pat said levelly, stirred to speech once more. "I believe in selling. I believe what Mr. Canup says—that you have to look real hard to see how you can help the customer to buy. If you do, you'll make more sales and eventually you'll collect more money.

"And I am glad that manufacturers are bringing out more, new useful products to sell. Then we fertilizer and farm supply dealers have more items to sell to farmers, and farmers can use more products to make more profit."

"Ach, such stuff!" growled Oscar. "McGillicuddy let me ask you something. Have you bought a cemetery lot?"

Pat looked puzzled for a second, then, "W—why no, I haven't, but I'll get around to it someday."

"You see!" Oscar snorted triumphantly. "That just shows how you are not a business man. You know you are going to die someday and you ain't bought a lot yet. Why, Minnie and me have had a big lot for 25 years, and we even got the stones on it and it's all paid for, and the dates of our birth are on the stones. Why put it off, Irisher? Are you figurin' on living forever?"

"No, I don't figure to live forever," Pat said slowly. "But I sure don't want to die twenty five years ahead of my time and never know it, begorra."

And he got up from his chair, put on his coat and hat and went downtown to get a cup of coffee.

Sound Soil Program Boosts Corn Yields In Southern Illinois

URBANA, ILL.—Farms in the claypan area of southern Illinois produced some big corn yields in 1956 because balanced fertility treatments were applied and weather was favorable.

J. B. Cunningham, University of Illinois farm management specialist, reports that 27 test demonstration farms there averaged 70.3 bu. of corn on 1,791 acres. This yield was three bushels above the state average and more than 12 bu. above the average for farms in their area.

The area consists of 20 to 25 counties in south-central Illinois sometimes known as the gray prairie. Its soils have an average productivity rating of 25 to 30, compared with 70 to 95 for most cornland in central and northern Illinois.

Top yield was made by Ayres Buzzard of Fayette County, who averaged 103.2 bu. an acre on 135 acres. His land is 85% Cisne silt loam and has a productivity rating of 26. He has been building up his soil for many years. In 1956 he used a high fertility program, worked his land thoroughly and got surface water off as soon as possible.

On his second-year corn and on corn following a poor clover stand, he used about 100 lb. of nitrogen, 80 lb. of phosphate and 120 lb. of potash an acre.

William Rentfro, Effingham County, averaged 97 bu. an acre on 51 acres of corn. He also has built up his soil to a high productivity level. In 1956 he used 55 lb. of nitrogen, 53 lb. of phosphate and 120 lb. of potash to the acre. He intends to put enough fertilizer on his corn land to partly feed the soybean crop that follows. His corn usually follows legume hay or pasture.

When soil surveys of these counties were made 15 to 25 years ago, corn yield estimates on these soils were 15 to 35 bu. an acre.

POOR WATER OUTLOOK

STATE COLLEGE, N.M.—The water supply outlook for 1957 for New Mexico is extremely poor, according to Robert L. Guice, extension soil conservationist at New Mexico A&M College. Well above average snow pack and rainfall will be required to provide even a reasonable supply because of low carryover storage and dry soils.

WHEN BUSINESS LOOKS A LITTLE DARK...

It's time to look at PRIVATE LABELS!

When competition grows keen, when repeat orders don't repeat . . . that's no time to play ostrich! Hiding your head in the sand may make lost sales a little less noticeable, but you're sure to lose some mighty pretty plumage while you're bent over!

Now is the time to get your eyes open wide and to see for yourself just what Private Labeling can mean in sales and profits to you in your market.

Through private labeling *you* are assured an *exclusive* on *your* high quality line in *your* market . . . *Your customers can't reorder from anyone but YOU!*

PRIVATE BRANDS, INC., *is ready with a complete service to help you increase your business. It will pay you to investigate today!*

Write, Wire, Phone for Particulars.

PRIVATE BRANDS, INC.
300 S. THIRD - CL-6 - KANSAS CITY, KANSAS

THE BEST YOU CAN BUY!

Spread More — Save Money With A & D

FERTILIZER SPREADERS

Adams & Doyle fertilizer and limestone spreaders are first choice with custom spreaders, fertilizer dealers and large farm operators. Capable of spreading from 100 lb. up to 4 tons per acre. Precision built gear cases. Hood unfolds to 20 feet wide with open ends for 10 to 15 feet extra coverage.

- Spreads fertilizer, limestone.
- Easily operated by one man.
- Guaranteed for one full year.
- Field tested all over America.
- Costly maintenance eliminated.

Write for folder and prices.

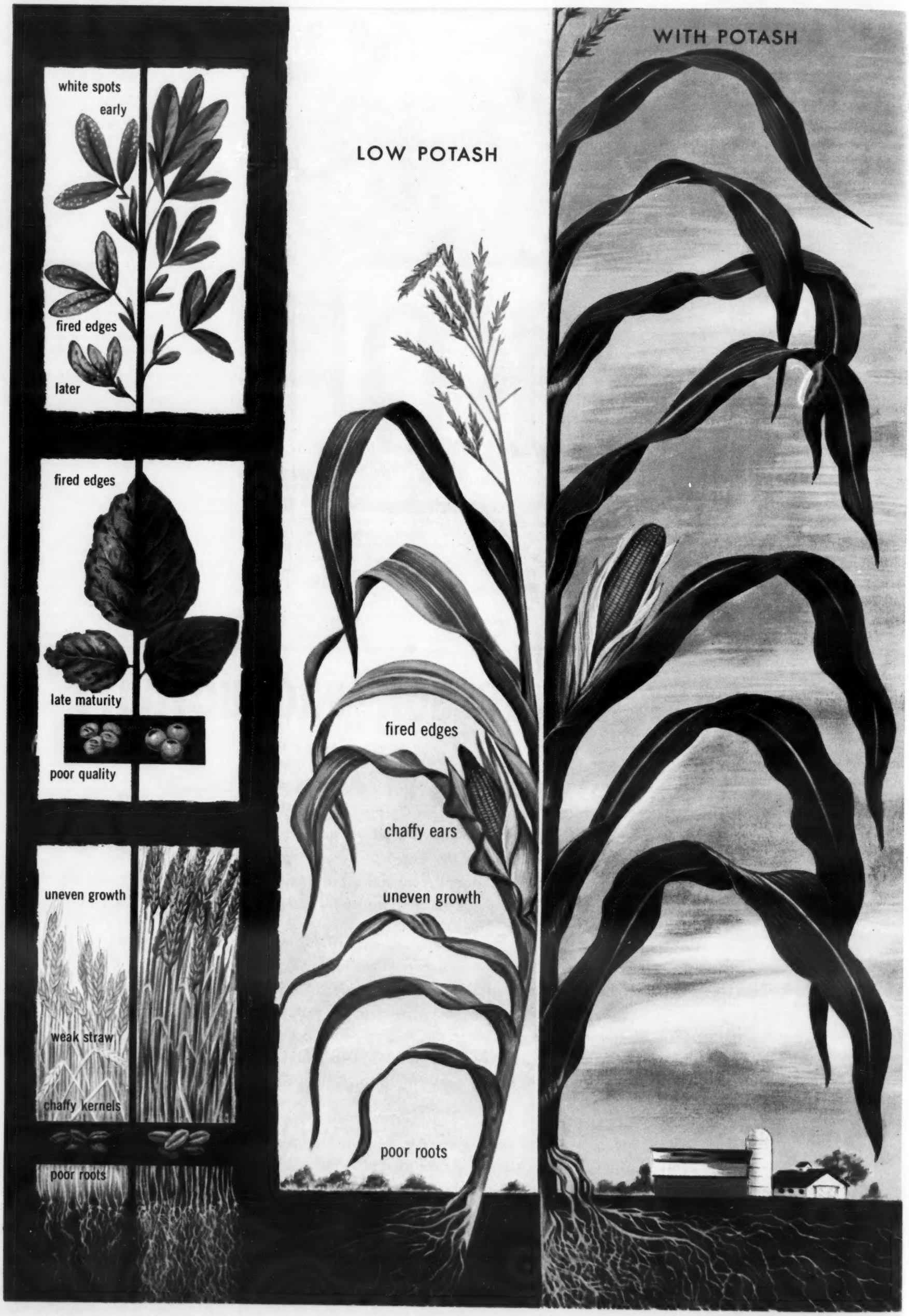
ADAMS & DOYLE EQUIPMENT MFG. CO.
3900 BROADWAY QUINCY, ILL.

LOW-COST KEY TO SOIL PRODUCTIVITY

The American Potash & Chemical Corporation, Duval Sulphur & Potash Company, Potash Company of America, Southwest Potash Corporation, and United States Potash Company Division of United States Borax & Chemical Corporation, comprise the membership of the American Potash Institute, Inc. Through their Institute, these firms conduct a continuing program of research and education, directed toward the more efficient use of fertilizers.

As a contribution to that program, the regionalized advertising message on the following two pages will appear as a part of the Institute's 1957 informational campaign in Farm Journal, Successful Farming, Farm and Ranch, Progressive Farmer and Capper's Farmer. Enlargements, for wall hanging, will also go to each vocational agriculture department, each county agent, and each university soils and agronomy office in the United States. Other educational messages will appear in some 50 farm magazines early in the fall of 1957.

Wall-poster-size enlargements of these messages, regionalized for the South, the Midwest, the West, and the Northeast, are available for tacking up. For how to obtain them, and how to use these and other American Potash Institute materials, see page four, of this insert.


white spots
early
fired edges
later
fired edges
late maturity
poor quality
uneven growth
weak straw
chaffy kernels
poor roots
LOW POTASH
fired edges
chaffy ears
uneven growth
poor roots
WITH POTASH

WH?-WHEN-HOW you should use

POTASH

Low-cost key to productivity in Midwestern soils

WHY use potash? Very simple: *it pays.*

Potash is the low-cost key which puts meat and milk-building *quality* and *yield* in corn and legumes, scale-bending *weight* in cash grain. Potash enables crops to use moisture better, and even fight off disease better.

With *severely limited* supplies of potash, plants will live, but will develop many of the starvation symptoms shown on the opposite page. With *moderately limited* amounts of potash in your soil, you won't see these warning hunger signs, will never know the size of the crops you *could have* raised.

In short, potash—the *lowest cost* of the major fertilizer elements—contributes to *highest profits.* Not only through greater yields, but also through products of *higher quality,* better market appeal.

If you are following a typical Cornbelt cropping pattern, and a typical Cornbelt fertilizing program, *you are running lower and lower on potash.* Without delay, pull soil samples, have them tested. Potash is low in cost; it will pay you to put on *every pound* the soil tests indicate you need.

WHEN are the best times to use potash? As starter; plow-down; topdressing. But remember this: Cornbelt crops—corn, small grains, forage legumes, soybeans, canning crops and orchards, all need large amounts of potash. Whenever you market a crop, you have sold potash off your farm and, on many soils, need to replace it just as surely as you need to fill the gas tank after a day of heavy plowing.

The single most important point to remember about *when* to apply potash is to apply it *before* a single hunger sign can be seen. When hunger signs show, all you can *hope* to do is *cut your losses.* Apply potash early and amply, and you *build your profits.*

HOW to apply potash? Most potash in the Cornbelt has been put on in the starter fertilizer for corn. Now, we're finding larger and larger amounts pay the best profits, and we are seeing two important changes.

First, top corn growers are using band placement of mixed fertilizer at planting time. Many new corn planters, or conversion kits for old ones, place the fertilizer in a band a couple of inches below and a couple of inches to the side of the seed.

Second, many expert corn growers are broadcasting high-analysis mixed fertilizers, or muriate of potash, on corn ground before plowing.

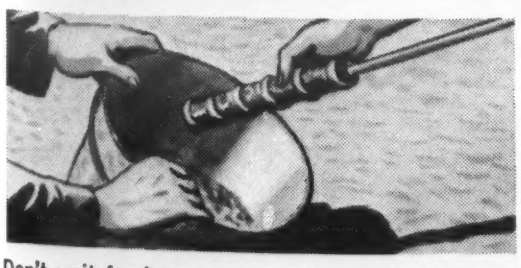
Use a potash-abundant mixed fertilizer ahead of a legume seeding, as indicated by soil test. And don't forget to topdress later, for, when there is a shortage of potash in the soil, the *legume in a legume-grass mixture will starve first.*

WRITE FOR FREE BOOKLET:
"Potash In Agriculture"

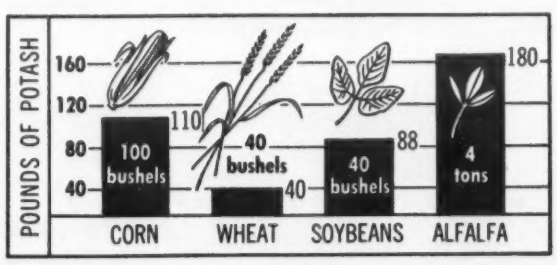
K_2O AMERICAN POTASH INSTITUTE, INC.
Dept. 152, 1102 Sixteenth Street, N.W., Washington 6, D.C.

MEMBER COMPANIES: American Potash & Chemical Corporation • Duval Sulphur & Potash Company • Potash Company of America • Southwest Potash Corporation • United States Potash Company Division of United States Borax & Chemical Corporation

2-Minute Short-Course On How to *Buy* Potash . . .



Don't wait for hunger signs. Test soil, find plant food need. Consult your official agricultural adviser.



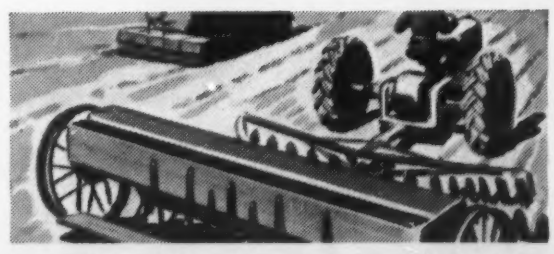
Cornbelt crops use lots of potash. And the better your yield, the more potash next year's crop needs.

Potash is the "anchor man" in a fertilizer analysis —just as it is in building quality and yield in crops.

And How to *Apply* Potash . . .

In starter keep potash content high as soil test shows need. Band-place below, to one side of seed.

For heavy, most profitable, potash treatment broadcast and plow-down. Be sure to topdress forages.



Use potash-rich fertilizer at grain seeding time as shown by soil test. Helps grain, and legume seeding.

PROGRAMS and ACTIVITIES
of
THE AMERICAN POTASH INSTITUTE, INC.

The American Potash Institute is a research and educational organization. Its purpose is to expand the agricultural use of potash on a basis that is sound and profitable to the farmer.

Organized in 1935, the Institute engages in a wide range of activities, and offers many services to farmers and agricultural leaders. These activities and services include: fellowships and research grants in agricultural colleges and experiment stations; fertilizer demonstrations, in cooperation with agricultural extension forces, soil conservation service, county agents, vocational agriculture teachers, and other groups; education in efficient use of potash, through publications, motion pictures, radio, television, books, and advertising. The Institute's monthly magazine, "Better Crops With Plant Food," goes regularly to 24,000 teachers, county agents and other agricultural leaders. Regional newsletters, reprints, and direct service to the farm press also constantly help explain the importance of potash in balanced soil fertility.

Partial Listing of Educational Materials Available from the American Potash Institute

Werner L. Nelson
Midwest Manager
Life Building
Lafayette, Indiana

- **Motion Pictures** (16 mm., color)
  - —Potash Production in America (25 minutes)
  - —The Plant Speaks (series of 4 films)
    - . . . Thru Deficiency Symptoms (25 minutes)
    - . . . Soil Tests Tell Us Why (10 minutes)
    - . . . Thru Tissue Tests (14 minutes)
    - . . . Thru Leaf Analysis (18 minutes)
- **Better Crops With Plant Food**
  - —Monthly magazine on soil and crop management.
- **Slide Sets and Film Strips**
  - —Successful Alfalfa—You Can Grow It
  - —Soil Fertility and Soybeans
  - —Potash Deficiency Symptoms
  - —Potash Production in America
- **Wall Posters**
  - —Plant Food Utilization
  - —Potash-Starved Legumes
  - —Corn Starvation Symptoms
  - —Cotton Rust Is Potash Hunger
- **Pamphlets**
  - —Potash Deficiency Symptoms
  - —Potash In Agriculture
- **Reprints of Articles on Soil Fertility**
- **Regional Newsletters**

You are invited to make use of any or all of these materials. In addition, your regional agronomist will be pleased to be of personal assistance. Call on him.

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MEMBER COMPANIES: American Potash & Chemical Corporation • Duval Sulphur & Potash Company • Potash Company of America • Southwest Potash Corporation
United States Potash Company Division of United States Borax & Chemical Corporation

80% Mixed Fertilizer, Amazing Systemics Seen in Look Ahead at Farming in 1976

EDITOR'S NOTE

This is a special year-end feature prepared by the extension editorial office, College of Agriculture, University of Illinois. Contributing to this look ahead are D. E. Alexander, O. T. Bonnett, A. L. Lang and E. H. Tyner, department of agronomy; J. L. Cartter, U.S. Regional Soybean Laboratory; L. W. Salisbury, head, department of dairy science; L. E. Card, A. L. Neumann, S. W. Terrill and U. S. Garrigus, department of animal science; T. A. Hieronymus, M. B. Kirtley and E. R. Swanson, department of agricultural economics; and Wendell Bowers and K. H. Hinchcliff, department of agricultural engineering. The ideas expressed in this article are based on current research, with practical application believed possible but not guaranteed.

Let's look ahead to January 1976, when John Farmer begins to plan for that year.

He will start by going to see a qualified farm planning consultant. With the aid of electronic computing equipment, they'll find out the enterprises that will yield top production and highest returns on John's farm.

The facts and figures needed to work out this tailor-made plan come from John's records kept by a record-keeping firm. John mails in his expenses and receipts every month. Electronic accounting and computing equipment are used so that at the end of the year a complete summary of expenses, income, yields and production costs can be furnished.

John's corn is a hybrid, shorter and stiffer stalked than farmers raised 20 years ago. It averages about 15% protein. (We used to think 10% about standard.) Oil content is about 7%. (About 4% was normal back in 1956). Yields of 100 bu. an acre are very common, and the best farmers think of 200 bu. as the yield to shoot for.

Oats are a minor crop for John Farmer. Part of his small grain acreage has been shifted to winter barley. He is looking forward to the day of planting winter oats. Already winter varieties have been developed for the southern half of Illinois.

Soybeans are the best crop John can grow on a piece of level land on the west addition to his farm. The new disease-resistant varieties have removed all fear of root rot which plagued growers a few years back. Biggest aid to growing soybeans is the new selective weed-control chemicals. They haven't replaced cultivation entirely but have been a great help.

John has one fourth of his land in grasses and legumes. He needs them for hay and silage even though some of his neighbors think he's old fashioned. They feel that legumes are a poor way to supply nitrogen when we've had low-cost nitrogen fertilizers for 25 years. John thinks their theory may be all right, since they're grain farmers. But he's a livestock man, and grasses and legumes still have their place for him. He makes his hay with a pelleting machine which cuts, dries and pellets all in one operation.

But John follows the latest fertilizer practices. He was one of the first in his county to use an 80% mixed fertilizer. Like his neighbors, he buys all fertilizers custom spread. He's been testing for trace elements but hasn't needed to apply any yet. Some farmers have been using trace-element sprays and dusts on their crops successfully.

Plant diseases now seem to be much less of a problem than they used to be. New systemic chemicals sprayed on the crop make it immune to disease for life.

John has always liked to feed cattle. Several thousand head a year now move through his lots. He feeds high-roughage rations. In summer it's green chopped grasses and legumes. In winter it's grass or corn silage and hay pellets. But very few cattlemen feed on pasture—it's too inefficient.

John knows that his customers want tender beef, so he aims to finish out his cattle for low choice grade. He buys a protein supplement that may contain urea and ammonium compounds and is balanced for specific amino acids. Practically all beef cattle now reach market before they are two years old. All feeders keep close records of gain. John buys only from herds with carefully kept records of performance.

Hogs are also a major enterprise for John Farmer. He raises a true meat-type animal, and buyers line up to buy his hogs. This type resulted from many years of careful selection with the aid of boar-testing stations. It will produce lean pork without requiring any large cut-out of lard. Hog production is centralized on concrete because land is too valuable for pasture. Complete sanitation has cut disease risks. Mass farrowing the year round evens out work loads and marketings. Air conditioning is used to control temperatures in the hog buildings to get top gains during hot weather.

The dairy business of 1976 is also highly specialized. No dairyman would think of operating without at least a part-time accountant keeping tab on all costs. Artificial breeding is used almost 100%. New treatments of semen are producing some startling results in getting larger, more productive animals. Transplanting eggs from a valuable cow into the uterus of a common cow has enabled some breeders to greatly increase the offspring from outstanding females.

High costs of labor make many new machines practical for John Farmer. Tractors are now fancy vehicles compared with the old styles on sale back in the fifties. They have completely variable speeds, made possible by automatic transmissions. All kinds of hydraulic attachments enable them to do chores around the farmstead as well as in the field.

When John Farmer plans his new home in 1976, it will be a one-floor model with great flexibility. With no center roof support, movable walls will be possible. This house can be arranged for the growing family, for parents alone after the children leave, or for family visits or other entertaining.

Want to be farming in 1976? Farmers will find a huge demand for food from over 215 million consumers. They will sell their products at a profit by producing the kind of foods consumers want.

The automation of American industry will have produced a working population that will need mental alertness and skills, but less physical effort. The diets of all will be keyed to generous amounts of protein and less fat. This will mean more fresh fruits and vegetables, eggs, meat and poultry and less fats, potatoes and cereal products.

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

Carry-over stocks of pesticides as of Sept. 30, 1956, were larger than they were on the same date in 1955, the USDA announced. Carry-overs in the hands of basic producers increased more than did formulators' inventories, the report said. Some chlorinated hydrocarbons were up over 90%, whereas formulators' stocks increased only 20%.

The executive committee of the National Plant Food Institute said that it looks "with disfavor" on a proposed change in reporting the phosphate and potash content of fertilizers as "P" and "K", rather than P_2O_5 and K_2O. A resolution passed by the committee stated that the Institute should act as a clearing house and make available to all parties, including state officials and state legislatures, any information on the subject.

Despite the fact that fewer acres were used in agriculture in 1956, farm output in that period equalled previous records in 1948 and again in 1955. The 1956 crop was grown on the smallest acreage in 20 years.

The output of sulfur reached new highs in 1956, and exports of the mineral held near the record levels of the past few years. Consumption in the U.S. was estimated at 5,900,000 tons in 1956, as compared to 5,650,000 the previous year. Exports were expected to reach about 1,600,000 tons.

Fred M. Stewart, vice president and general manager of Agricultural Ammonia Service, Inc., Santa Paula, Cal., became president of the Agricultural Ammonia Institute on Jan. 1. He is the first westerner to head the Institute.

The Interstate Commerce Commission granted freight rate increases of 7% and 5% for eastern and western territories, respectively, to the railroads. Despite strong protests from the fertilizer industry, the increase was allowed. Observers in Washington and in other parts of the country predicted that this will force much of the industry to depend on trucks for both long and short hauls of materials.

The Tennessee Valley Authority announced that it had developed a process for shortening the time to produce superphosphate suitable for immediate use in mixed fertilizers, thus doing in 1½ hours a production job that would normally require weeks of curing.

Insect resistance was reported to be on the increase by speakers at the Cotton Production Conference held at Birmingham, Ala. in December. Stress was placed on the need for more research to find answers to many questions concerning resistance and other problems of insect control in cotton. Reports were also made on the progress made in experiments with systemic insecticides which were regarded as successful in 1956 tests.

That fertilizer tonnage is down 4.4% for the fiscal year of 1955-56, ended June 30, 1956, was estimated by the National Plant Food Institute. It said that consumption totaled 19,980,264 tons during that period as compared to 20,902,863 tons in the previous fiscal year.

Farmers, in a referendum vote on Dec. 11, rejected provisions of the soil bank, but observers in Washington said that this should not impair fertilizer sales in 1957.

Tests with systemic insecticides on cottonseed were reported as being successful in 1956 experiments. Two products were cited as being the best tested thus far. They were "Thimet" and "Bayer 19639."

Coastal Chemical Corp. announced that it will build a $2 million phosphate fertilizer plant at Pascagoula, Miss. It will be put in operation in January, 1958.

Fertilizer meetings were hold at Fargo, N.D.; Montgomery, Ala.; St. Paul, Minn.; and Lafayette, Ind., with manufacturers, farmers, and dealers in attendance to take part in "short courses" in soils and fertility. The Ohio Pesticide Institute held its annual meeting in Columbus, and the American Phytopathological Society's annual convention was held at Cincinnati in December.

A hearing before the Interstate Commerce Commission was held in Kansas City the last of November, giving the fertilizer industry an opportunity to testify against the rail carriers' demands for higher freight rates. Industry representatives indicated that the fertilizer economy could not tolerate further increases in hauling costs, and if rates were to be advanced, many firms would be forced to find other means of transportation.

A fertilizer industry committee met at Iowa State College to discuss the pros and cons of listing fertilizer grades in terms of elemental vs. oxides. Numerous arguments against a switch to NPK listings were registered by industry representatives.

J. E. Meggs, Nichols Fertilizer & Chemical Co., Oklahoma City, was named president of the Oklahoma Plant Food Educational Society at the group's meeting at Stillwater Nov. 28.

Hercules Powder Co. announced the names of six national winners of $300 college scholarships in the National 4-H entomology awards program. Winners were from Connecticut, Illinois, Mississippi, North Carolina, Oklahoma and Wyoming.

A fly control program for California was announced by entomologists of the University of California. The program will utilize the facilities of the Davis, Riverside and Berkeley campuses of the University in screening various insecticides for this purpose.

Sales of mixed fertilizers and fertilizer materials in Canada, for direct application to the soil, amounted to 1,671,497 tons in the year ended June 30, 1956, the Dominion Bureau of Statistics reported. This figure was an increase of 3.9% over the previous fiscal year.

OKLAHOMA CONFERENCE

(Continued from page 13)

company farm," he said. Drying out of bags is prevented by spraying water on them in summer.

"We feel that our farm chemical line is complete and we do custom applicating in every case where the farmer does not want to do it himself. Custom applicating, especially custom spraying, must be done correctly, and we always follow the recommendations of the county agent and our state college."

Dowell-tyler has found that a line of certified field seeds—mostly legume seeds—is an ideal combination with fertilizer sales.

The Stillwater firm's activities extend far beyond the merchandising phase, important though it is. Agricultural Stabilization and Conservation committee practices are watched closely since they often have a bearing on fertilizer usage. FFA and 4-H work gets a willing hand from the store's personnel as many of their members will become the firm's customers tomorrow, Mr. Tyler said.

"We help the county agent with fertilizer demonstrations, especially in taking yields," Mr. Tyler stated. "We have found small plots difficult to check and prefer to use half the field as a check plot.

"We have adopted an advertising program and we stick to it," the Stillwater fertilizer dealer said. The firm runs an advertisement in the Stillwater newspaper once a week. The ads are designed to appeal to lawn and garden fertilizer users, as well as farmers. Business in lawn and garden fertilizers, seeds and supplies has been growing steadily over the past few years. The firm also provides complete lawn service, beginning with seeding or sodding and all the way through lawn care.

Several highway signs are kept in constant use and no area farm demonstration passes without a representative of the firm present to provide assistance or merely to show that the company is interested in the farmers' welfare. Frequently orders are sold directly as a result of being present at farm demonstrations.

"Demonstrations are the best means of showing farmers what fertilizers can do," Mr. Tyler said.

"We help the farmer who has bought fertilizer from us for several years to follow up on his soil sampling and remind him that soil tests must be repeated as conditions change," Mr. Tyler stated.

Among the services which have proven popular are a Bermuda grass planter with fertilizer attachment which is available to the customer on a rental basis and an anhydrous ammonia applicator available for rent or custom applicating.

"Our aim is to make every land operator in our trade area a fertilizer user eventually," concluded Mr. Tyler.

"Every county should have a plant food organization to which dealers, salesmen, county agents and vo-ag teachers can belong," said Mr. Sallee.

"Dealers are in day-to-day contact with farmers. They are usually the last contact with the farmer before he plants his crops. It's better for the farmer to get his information from the informed dealer than from the almanac," Mr. Sallee said.

County plant food organizations might try one or two meetings a year, if these accomplish the goals set up, said the county agent. The county extension service doesn't have enough money to promote fertilizer demonstrations adequately and this is one area where a county plant food group is valuable. Dealers can aid the county agents to secure help in planting the demonstration plots and cooperate with field day promotions. A county plant food group can gain considerable favorable press and radio publicity with its activities, thereby promoting the use of fertilizer.

Occasionally, the combined dealers could co-sponsor ads in the leading county newspapers on fertilizer usage. Mr. Sallee felt that fertilizer interests don't get adequate newspaper publicity and said that often field days go by practically unnoticed by the press.

Dealers can also advocate fertilizer usage by the use of placards and printed circulars indicating recommended grades and rates. These are ideal for bulletin board use, Mr. Sallee stated. County associations could help get farmers to meetings, demonstrations and field days, he added.

Mr. Sallee issued some challenges to dealers: (1) Attend at least one experiment station field day a year; (2) help the farmer take proper soil samples; (3) if a sample was taken 3-4 years ago, encourage and help the farmer take repeat samples by going out to the farm and helping the farmer do it, and (4) give time, talent and cooperation to work with the farmer for better agriculture.

"We have let our soil nutrients run down far too long and this situation must be corrected," said Mr. Sallee. "Too many farmers still believe that fertilizers burn crops and this notion needs to be dispelled," he said in urging dealers to assist in promoting the wise use of fertilizer.

Fertilizer lends itself well to effective demonstrations, said Mr. Hanes.

In efforts to move larger quantities of fertilizers, demonstrations are the most convincing to the farmer, Mr. Hanes said. He cited the effective use that feed dealers are making of feeding demonstrations in which the animal's weight gains are carefully recorded daily to prove the effectiveness of the feeds they sell.

In a memory retention test it was shown that 10% of a group of people recalled what they had heard three days before; 70% recalled what they saw three days previously and 90% remembered what they saw and heard three days before. Demonstrations, Mr. Hanes said, are therefore very effective because the farmer can see the results and hear them explained.

"Few of our farmers seem to be fertilizer conscious. But most all are variety conscious. They'll drive a long way to see a new cotton variety but not to see a fertilizer demonstration. The best type of demonstration, therefore, is the package demonstration, or one that combines all phases, including variety, fertilizer, pest control activities and harvesting," Mr. Hanes said.

"I have seen 50 tons of fertilizer sold within four hours after one good demonstration," Mr. Hanes stated.

Mr. Hanes had some suggestions for staging successful demonstrations. They are:

1. Pick a plot on a good road.
2. Pick a soil representative of the area.
3. Pick an interested farmer.
4. Make a plan and then follow through.
5. Be accurate; use exact quantities.
6. Publicize the demonstration; invite visitors, newspapermen. Use signs and tell fully what the demonstration is about.
7. Harvest the demonstration plot; get something tangible; see what extra income is made.
8. Use the information acquired from a demonstration as a selling tool, not as a fact or rule for the county or state.

Mr. Hanes suggested that dealers sell fertilizer benefits and net profits per acre, not alone by increased bushels per acre. Put it in the dollar-and-cents language and it makes a much better impression on the farmer, he said.

One successful method of baiting farmer interest in a demonstration is stage a guessing contest in connection with it, Mr. Hanes said. It helps get the farmer out into the demonstration field and makes him inspect the plants closely. He is bound to find out what the demonstration is attempting to prove. Prizes for the best guesses will increase the interest, Mr. Hanes said.

OVER THE COUNTER

(Continued from page 13)

The changes are necessary ones, it is explained in the following excerpt from the bulletin:

"Historically, agriculture has been notorious for its fragmentary financing pattern. Until relatively recently, much of the financing has been done on a commodity basis. Even today it is not uncommon for lending institutions to approach the farmer's credit needs from the standpoint of financing feeder cattle, dairy, cotton, farm machinery, broilers, or tung nuts. The nature of agricultural operations today is such that the commodity financing approach is not adequate. Likewise, piecemeal financing, enterprise by enterprise, is not a sound credit arrangement.

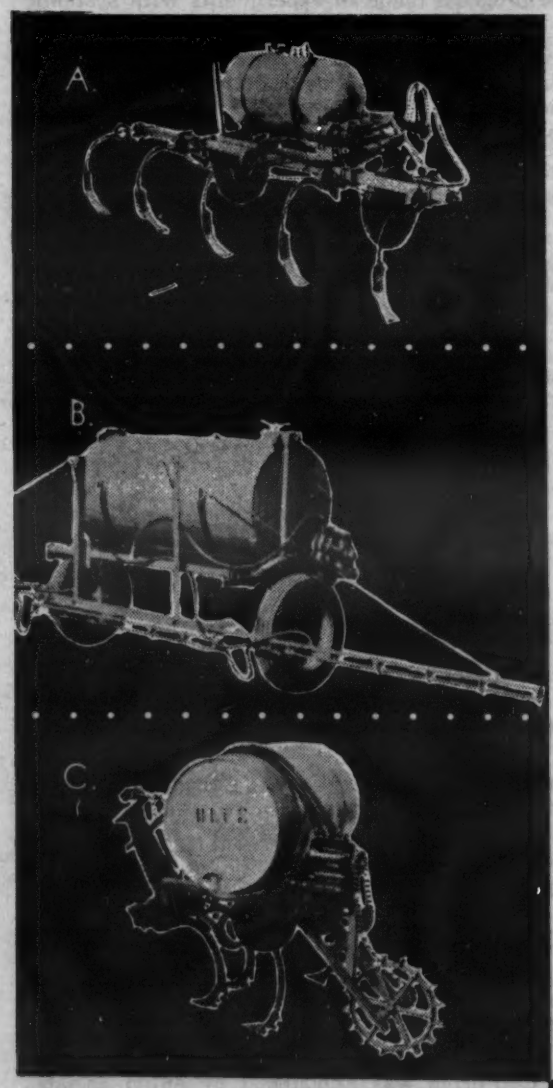
"The merchant is still an important source of credit, but commercial lenders have materially reduced the proportion merchants have to carry.

"For example, the farm machinery industry has made a notable shift from manufacturer and dealer financing to commercial lender financing in the past two decades. Although manufacturers carried farmers' notes equal to nearly one-half of their equipment sales throughout the 1930's, practically all of this was shifted to commercial lenders in the 1940's. Currently manufacturers are financing very few farmer purchases."

It may be true, generally speaking, that manufacturers are financing very few farmer purchases, but there are exceptions, such as the practice of manufacturers and dealers financing broiler producers and, to a lesser degree, fertilizer purchases. However, as commercial lenders become more familiar with the advantages of fertilizer loans, they will begin to play a more active role in supplying the needed credit. The dealer can aid this trend by making sure that the local banker is acquainted with the soundness of making fertilizer loans and that increased yields and profits result from using recommended fertilization practices.

RENOVATED PASTURE PAYS

ST. PAUL, MINN. — Theodore Wachter, a farmer in Dakota County, received 2,225 lb. milk from each acre of really topnotch renovated pasture last summer, compared to only 727 lb. from each acre of unimproved bluegrass pasture. He grazed the cows for 115 days and kept careful records of how much the cows produced from each pasture. He applied 200 lb. of 5-20-20 fertilizer per acre to his renovated pasture lands, according to soil tests.



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New Products Open New Sales Horizons for Alert Dealers

By AL P. NELSON
Croplife Special Writer

One of the continuing problems of e farm supply merchandiser is to ep on top of new developments in rm chemicals. There are so many oducts coming onto the market that e dealer—if he wishes to cash in on w sales—must learn about their es and ways to sell them.

How do dealers react to this flood new products and the responsibili- s that go with them?

In too many cases the reaction is gative and this retards sales. here are so many new products on e market now, and more coming on the time, that I can't keep up th them," many a dealer says arily.

Well, what's the answer? Many a aler doesn't "keep up with them" he puts it, simply because he esn't make the effort to do so. hat is lacking is the dealer's will- gness to set up a program for ac- iring the knowledge of the product hich will help him sell more of it.

How can the dealer do this?

He need not do all of it himself. urely he has the time to study all he literature on three new prod- cts per month, and then hold a les meeting with employees and ell them about it. That program ould cover 36 new products within year.

Then he can delegate one trusted ployee to study another three oducts that are new and make a port at a sales meeting. That would another 36 new products per year, a total of 72 per year. If the deal- needs to, he can delegate a third ployee to study three more prod- ts.

Finally, if the dealer doesn't want do all this work himself, he can ntact his supply salesman and ask n to give talks to the employees. When the dealer, the employee and supply salesman make a report should be in writing. Then the deal- can mimeograph the results and ss sheets of the talks to all em- yees for spare time study. Or, you n make a tape recording of the re- rts so that they can be replayed enever the need arises. Such re- rts, too, should discuss the best ys to sell the new products.

Now why should a dealer go to this e of program to get results? Is it rth the effort?

1. New products open a field for w sales. Many dealers fail to alize this. When you sell a new oduct, you are tapping a new arket. You are selling something a farmer you did not previously ve to sell him. New products, too, ten carry a higher margin than oducts which have been on the arket for a long time.

2. The dealer who acts fast on a w product is likely to step ahead of mpetition and reap a harvest of es before the slower thinking mer- nts wake up. In other words there often no competition at all on a w product—a wonderful situation the alert, hard working farm sup- dealer, who has taken the time study the product thoroughly, and see where it will help farmers. ain, it is the case of the early bird tting the worm.

3. Win new customers through a w product. By being alert enough stock and actively sell a new prod- thus meeting a need of the farm- you can win many a new customer. ors which have been closed to you suddenly open on the new prod- uct sale and you will often find your- self selling fertilizer where you never sold it before.

4. Last, but certainly not least, the new product opens the dealer's eyes to the many merchandising opportuni- ties that lie in his grasp. Every dealer thinks of his "main lines" and his "sidelines," so to speak. Too often a dealer will devote all his merchandis- ing effort to main lines, even during dull seasons, and let sidelines sell "if they will."

But when the dealer merchandises his sidelines, among which are many new products, he makes good use of his time and creates new sales. This experience is very likely going to make him a better all around dealer, more alert to all merchandising op- portunities that come his way.

Remember, every new product which you buy to resell means an- other opportunity for you to serve your customers, to develop your sales skills and those of your employees.

CRANBERRY WEED CONTROL

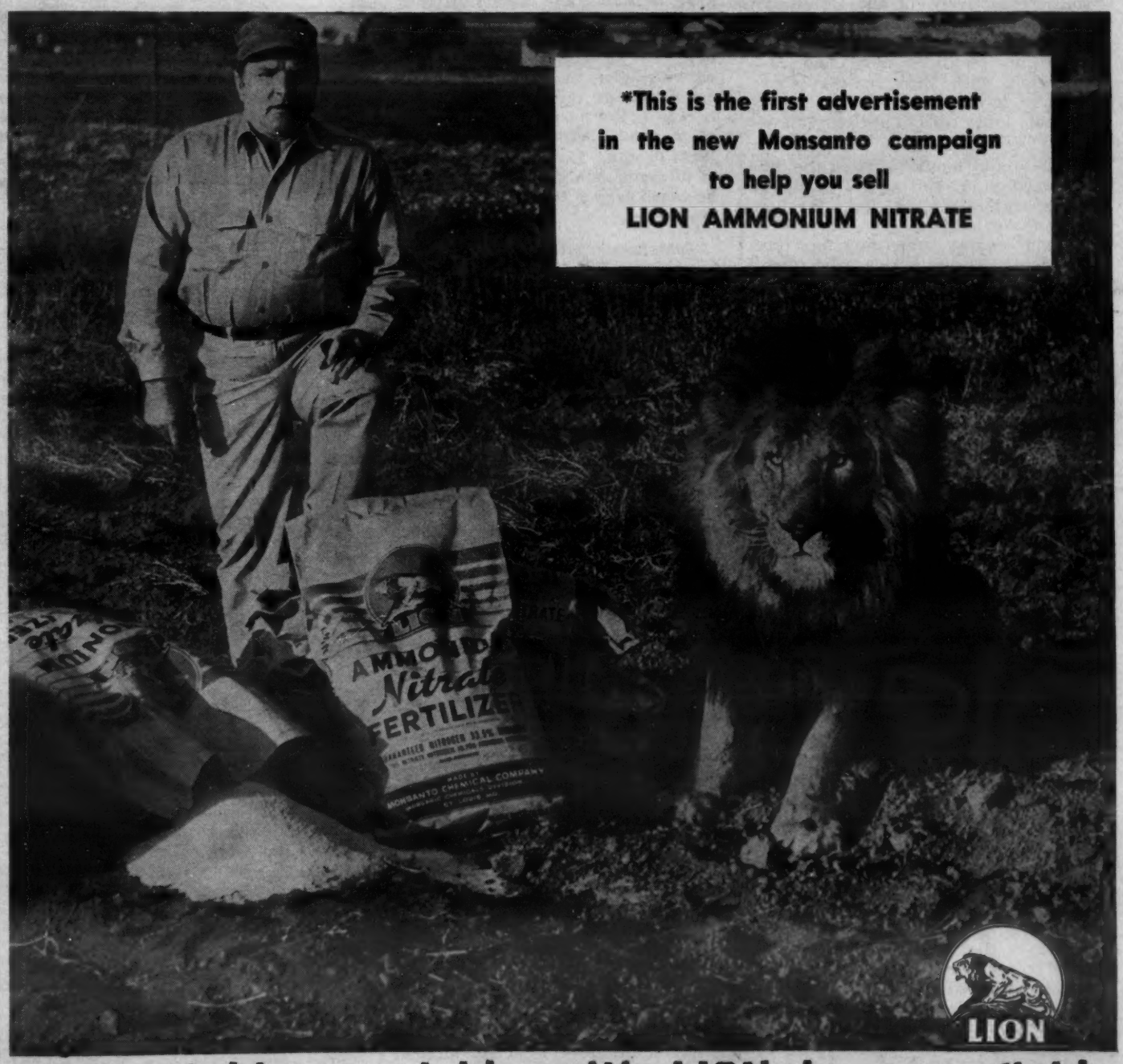
MADISON, WIS.—There is a good possibility for using chemical weed killers in cranberry bogs, according to Malcolm Dana, University of Wis- consin horticulturist. He said that cranberries have sufficient tolerance to several weed killing chemicals to warrant expanded studies with the materials.

Fertilizer Boosts Wheat Yields 10 Bu. Per Acre

LINCOLN, NEB.—Fertilizer could boost wheat yields 10 bu. per acre in southeastern Nebraska, according to results of University of Nebraska out- state tests.

In experiments during the past seven years on southeastern Nebraska farms, wheat without fertilizer has averaged 22 bu. When fertilizer was applied according to soil tests, the yields have been increased to 32 bu. per acre, states M. D. Weldon, exten- sion agronomist at the University of Nebraska.

The average yield of all wheat in southeastern Nebraska usually is around 22 bu. per acre, according to the State-Federal Office of Agricul- tural Statistics.



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Ammonia Reactions in Soil Studied by Missouri Group

COLUMBIA, MO.—Considerations of soil fertility and the functions of liquid and solid fertilizer materials, as well as application methods, were on the agenda during the two-day short course on soil fertility and plant nutrition here Dec. 13-14. The course was under the joint sponsorship of the University of Missouri's college of agriculture and the soil fertility and plant nutrition council of Missouri.

A study on the retention and reactions of anhydrous ammonia on different soil types was presented by L. L. McDowell and G. E. Smith, assistant in soils and professor of soils, respectively, of the University of Missouri. The authors reported that soil texture has a pronounced effect on fertilizer movement and retention, with the greatest movement of ammonia occurring in sand and silt loam soils. The least movement observed was in clay.

The loss of ammonia from the air-dry, acid sandy soil at a 6 in. depth of application was 44 times the loss from the calcareous clay soil receiving ammonia at comparable moisture and depth. The retentive capacity of a soil for ammonia increased greatly as the texture became heavier, they said. The loss of ammonia from the air-dry, calcareous clay soil was negligible even at the 3 in. depth of application. A considerable portion of the nitrogen applied as anhydrous ammonia was lost to the atmosphere or was fixed in some form making it non-extractable by the chemical analysis used. The amount of ammonia fixed increased with the greater clay content of the soil, it was pointed out.

The presence of high concentrations of ammonia in a localized area resulted in the partial breakdown of the soil organic matter. However, as a result of nitrification and the subsequent increase in hydrogen-ion concentration, this condition was no longer observed at the end of four weeks of incubation.

Ammonia losses were reduced considerably when the application was changed from 40 in. to 16 in. spacings and the rate applied per acre was maintained a constant, the paper said.

"Reasons for the greater volatilization of ammonia from 40 in. spacings may be postulated," the authors pointed out. "It has been shown that movement of the ammonia from the point of injection is relatively small. As a result, it is necessary for a small volume of soil to react with a large volume of gaseous ammonia. That portion of the gas which does not immediately react with the soil is forced toward the surface. There is less resistance to movement toward the surface than to lateral or downward movements. When the concentration of ammonia is reduced per unit volume of soil by narrower spacing of the injectors there is a greater efficiency of retention; consequently, less ammonia is lost to the atmosphere.

"Results of this study show the necessity for less widely spaced applications of anhydrous ammonia, particularly on light-textured soils. Many sandy soils lack the capacity for adsorption of large quantities of ammonia with the present methods of application.

"To overcome this condition partially it may be desirable to make applications at 10 or 12 in. spacings, thus providing for more efficient retention of the ammonia. This closer spacing would also increase the efficiency of utilization of ammonia by farm crops," they concluded.

Pointing out that late research on nitrogen fertilizers tends to challenge former ideas on the subject, George Wagner, University of Missouri, declared that research work conducted by the university, indicates the possibility of obtaining greater efficiency from nitrogen fertilizers.

"This work shows that under some soil conditions, a significant amount of nitrogen may be volatilized to the air and lost as a gas," he said. "The results of these studies, which have been obtained during the past two years, indicate that the proper use of chemical nitrogen in relation to the conditions of the soil in question is one of the most effective means of increasing crop production and farm profits." He added that losses of nitrogen as a gas from soils may be much larger than was formerly believed.

"Tests made with sodium nitrate, ammonium sulfate, ammonium nitrate, urea and aqua ammonia were conducted on eight soils, ranging in texture from sandy loams to heavy clays," he explained. "Significant differences in losses were shown for various nitrogen carriers on the same soil and for the same carrier on the different soils."

The scientist qualified this statement by saying that these data do not mean that past fertilization practices with nitrogen have been in error. "Rather, the Missouri findings contribute to a better understanding of some soil processes that are changing crop production from an art to more of a science," he said.

"The results pointed out, for example, that 30 lb. of nitrogen, top-dressed on wheat, would increase yields on many Missouri soils by 10 bu. per acre.

"As a financial investment this is a total return of about $20 for a $3 outlay. However, as a fertility investment, these 10 bu. of wheat grain give back only about 12 lb. of nitrogen. This leaves 18 lb. unrecovered in the first season's grain. Of this not in the turnover reported in the monetary transaction, some is left in the straw; some grows the crop of micro-organisms; some left in the sod may be recovered the following season, and finally, there is a quantity that is unaccounted for.

"Similar examples can be cited for corn and other crops. One hundred bushels of corn will contain from 75 to 90 lb. nitrogen in the grain and another 40 to 60 lb. in the vegetative portion, for a total of 115 to 150 lb. an acre or 1½ lb. a bushel in the entire tissue of the crop," he said. Numerous experiments have shown that two pounds of nitrogen a bushel is a minimum that is required for these higher yields, he went on.

"Frequently, three or more pounds may be required per bushel of increase in yields above 75 or 80 per acre. Some of this extra nitrogen for higher yields is left over and available the following year as residual material. It has not been possible in the balance sheets drawn up in the past to account for all the nitrogen that has been applied."

The Missouri scientist reminded that measurements made at various experiment stations in the U.S. and abroad have not been able to account for the decline in all the soil nitrogen by crop removal, leaching, or erosion. "This discrepancy can best be explained now through a loss of the nitrogen as a gas," he said.

AT MISSOURI FERTILIZER CONFERENCE—Dr. George Smith, center, professor of soils at the University of Missouri, discusses program details with Jim Gillie, left, Phillips Petroleum Co., Kansas City, president of the Missouri Soil Fertility and Plant Nutrition Council Short Course. At the right is Arnold Klemme, assistant director of the University's agricultural experiment station. Both Drs. Smith and Klemme appeared on the short course program held at Columbia, Mo. recently, and Mr. Gillie presided over the Council's business meeting.

Elaborating further on this phase of the question, Mr. Wagner said:

"The chemical changes that occur in a soil when a nitrogen fertilizer is applied are well known. When an ammonium fertilizer is applied to the surface of an alkaline soil, some nitrogen may be readily lost as ammonia. However, Missouri studies indicate that volatilization by this reaction would be negligible on most Missouri soils.

"When the temperature is above 60° F. the ammonia put into the soil in fertilizers changes to nitrates rapidly. If a soil is so wet that most air is excluded, then the soil organisms can use the oxygen in the nitrate resulting in a gas, N_2O—laughing gas or nitrous oxide. Under prolonged conditions of high moisture, the organisms can even utilize the oxygen from the nitrous oxide, N_2O, releasing the nitrogen in the gaseous form, N_2, which makes up over 80% of the atmosphere.

"This process is known as denitrification. Recent work reported from Illinois indicates that the addition of lime may modify the form of the gas in which the nitrogen is lost. Both of the above forms have been identified as losses from the soil in Missouri work.

"In well-aerated soils, this denitrification has not been formerly considered of much magnitude. However, with the heavier rates of nitrogen now being applied, the reactions may be changed. This is particularly true where fertilizer is banded in high concentration, or when broadcast on the surface of the soil. The concentration would be very high in the top ⅛ in. of soil when pelleted fertilizer is applied on to the surface and rain does not fall for some time.

"The studies here involve the use of both highly refined regular chemical methods as well as procedures using some of the isotopes of nitrogen that have resulted from work in atomic energy. New phases of physical and chemical sciences give us information not known before the liberal use of nitrogen fertilizer became so general.

"Detailed laboratory studies of these losses of nitrogen as a gas explain what was suggested by crops in the field. Where heavy applications of nitrogen have been made in the field for a number of years, soil analyses fail to show much increase in soil nitrogen or organic matter.

"On one soil, the winter top-dressing with nitrogen on small grains failed to show a response by the crop. Yet this same soil showed a loss of over 80% of the applied fertilizer nitrogen when incubated five months at room temperature with no crop grown on it.

"Losses from all nitrogenous materials used in these studies appeared to be greatest on soils high in organic matter and of a high clay content. Under several conditions, the loss in five months with no crop ranged from ¼ to ½ of the total nitrogen in the fertilizer applied. This is in agreement with the assumption reported for the tests in some states—namely that only 60% of the applied nitrogen will be utilized by the treated crop.

"This gaseous loss of nitrogen need not disrupt the current use of nitrogen fertilizers. This loss has been occurring since land was first cultivated. Methods for measuring these losses have not been available until recently.

"This new information is typical of the changes in our thinking that take place in the modification of any of our practices. With the increase in chemical nitrogen available economically, its use has been adopted by farmers more rapidly than most new practices.

"This resulted primarily because it has been profitable and has increased farm efficiency. However, as more research is conducted, a better understanding of soil reactions and thereby a more efficient use will be obtained.

"This work suggests a large new field for more investigation of the reactions of soil nitrogen. When these fundamental processes are fully understood, we may well believe that farmers will obtain greater efficiency from nitrogen fertilizers than has been obtained in past years."

Dean J. H. Longwell of the University of Missouri's college of agriculture welcomed the visiting delegates in attendance at the short course, and Dr. W. A. Albrecht, University of Missouri, was toastmaster at the banquet on the evening of Dec. 13.

rogram Plans for ebruary Meeting of WSIC Are Announced

CHICAGO—Proper fertilizer placeent in profitable crop production ll receive special attention at the thcoming annual joint meeting of dwestern agronomists and fertiliz- industry men at the Edgewater ach Hotel, Chicago, Thursday and iday, Feb. 14 and 15.

The program will also headline eports on new fertilizer research, ccording to the Middle West Soil mprovement Committee, sponsors the two-day meeting.

Dr. Kermit C. Berger, University Wisconsin, will be chairman. Ses- ns will open Thursday afternoon d run through Friday noon.

The visiting agronomists and indus- y men will be welcomed by Rich- d E. Bennett, president of Farm rtilizers, Inc., Omaha, Neb., presi- nt of the Middle West Soil Im- ovement Committee, and Zenas H. ers, Chicago, its executive secre- ry.

The Thursday afternoon program ill include reports on fertilizer re- arch by agronomists from Purdue niversity, Michigan State Universi- , the University of Missouri and outh Dakota State College of Agri- ulture.

Of particular interest will be a esentation on "Fertilizer in Profit- ble Farming," by Walter Mumm, of e Crow Hybrid Corn Co., Milford, l. Mr. Mumm will illustrate his ad- ess with color slides showing profit- ble crop response from the use of rtilizer.

The Friday morning program will e devoted to reports, discussions and question and answer session on roper placement of fertilizer in the w for corn.

Dr. A. J. Ohlrogge, Purdue Uni- versity, will lead off with a talk on 'What Are the Fertilizer Needs of Corn?" W. H. Garman, director of economic relations, National Plant Food Institute, will discuss "Ex- periment Station Recommendations on Fertilizer Placement."

W. C. Hulburt, agricultural engin- er, Agricultural Research Service, S. Department of Agriculture, eltsville, Md., will report on the rm mechanization factors in proper lacement of fertilizer. He will re- iew the equipment now available om implement manufacturers for lacement of fertilizer in the row.

A discussion on "A Proper Fertil- er Placement Promotion Plan" will e led by Z. H. Beers.

Representatives of farm implement anufacturing companies will be esent at the meeting.

Recommendations by agronomists r fertilizer grades and ratios for 57 in the various Midwestern tates, will be presented by Dr. Ber- er.

Agronomists from 13 Midwestern tates will attend two-day sessions f the North Central Soils Research Committee at the Edgewater Beach Hotel on Tuesday and Wednesday, Feb. 12 and 13, preceding the joint meeting.

Z. H. Beers, MWSIC executive sec- tary, urges fertilizer industry men nd agronomists to make immediate rrangements for room reservations t the Edgewater Beach Hotel.

CORN CHAMPION

CHICAGO — Walter J. Harpel, rawfordsville, Ind., whose corn took rst honors among several thousand ntries at the recent International rain & Hay Show in Chicago, be- eves in steady applications of plant od, based on soil tests. His land gularly receives a plow-down ap- lication of 500 to 600 lb. of mixed rtilizer, such as 4-16-16. At corn anting time last spring, Mr. Har- el added 200 lb. of 4-16-16 in the w.

California Chemical Employment Increases

SAN FRANCISCO—The number of persons involved in the manufacture of chemical products in California jumped by more than 3% between October of last year and October, 1956, according to the division of labor statistics and research of the California State Department of Industrial Relations.

There were an estimated 38,800 persons producing all types of chemicals, of which fertilizers and insecticides compose a substantial portion, as compared with 37,600 for the same month a year ago. The gain continues a trend which began several months ago. The rise between September and October of 500 workers far outstripped the September to October gain of 100 during 1955.

Earnings of the production worker segment of these manufacturing employees had also increased substantially during the month, and each production employee spent an average of 30 minutes longer at his job. From an average of $88.90 earned each week during October, 1955, the employee received total wages of $94.92 for a week's work in October of this year.

His average hourly earnings had risen from $2.16 to $2.28, and the length of the work week from 41.2 to 41.7 hours. As during the previous months, the earnings were close to the average for all production workers in durable goods industries in the state.

MORE IRRIGATION

COLLEGE STATION, TEXAS—Irrigation farmers in the High Plains area of Texas, from Sept. 1, 1955, to Sept. 1, 1956, added 710 miles of underground concrete pipe to their irrigation facilities. This makes a total of 2,532 miles of pipe now in use, says George L. Black, Jr., associate agent in irrigation for the Texas Agricultural Extension Service with headquarters at Lubbock

Mississippi Insect Conference Scheduled

STATE COLLEGE, MISS.—The third annual Mississippi insect control conference and annual meeting of the Mississippi Entomological Assn. will be held at Mississippi State College, Jan. 10-11.

Some of the nation's leading authorities on insecticides will participate on panel discussion. Dr. Johnnie Johnston, entomologist for the National Cotton Council, will head a panel on insect resistance to insecticides.

A panel on use of phosphates in cotton insect control will include O. T. Guice of the State Plant Board, Dr. M. E. Merkl of the Stoneville Station, Ed Broadus of the Niagara Chemical Division, and Dr. L. D. Newson, head of entomology research at Louisiana State University.

Besides these panels and others, a feature of the meeting will be a discussion of the cotton insect control recommendations for 1957.

FARM SERVICE DATA

Extension Station Reports

Ways to make more profits from fewer acres and bushels is outlined in a booklet entitled "How to Increase Your Farm Profits," published by the University of Missouri Agricultural Extension Service.

"During the past five years, Missouri farmers have produced slightly more than four million acres of corn annually, with an average yield of 35 bu. per acre," the booklet states. "The cost was about 84¢ bu.

"If the state average could be boosted to 45 bu. per acre the cost would be lowered to about 76¢ bu. At 80 bu.—an average reached by many good corn growers—the cost would be only 58¢.

"With such a state average we could plant 2½ million fewer acres, raise 20 million fewer bushels and still get $23 million more net income."

The booklet states that a lot of Missouri's 19 million acres of cropland—perhaps as much as one fourth—is scarcely paying costs of production under its present system of management.

★

A Nebraska extension agronomist reports that fertilizer plus irrigation boosted corn yields 56 bu. per acre. Clinton A. Hoover, of the University of Nebraska, says the tests were made in both Nebraska and Iowa.

Yields averaged up to 103 bu. per acre, where corn followed corn on Iowa test plots, when four and one-half inches of water was added and nitrogen fertilizer was applied at the rate of 160 pounds per acre. Mr. Hoover says yields averaged only 48 bushels on non-irrigated, non-fertilized plots.

★

"Plenty of fertilizer and working the pasture in shifts," are the key to high forage yields that can boost milk output per acre and cut costs of production, according to George Werner, University of Wisconsin dairy specialist. He cites the record of two Sheboygan county dairymen—Henry Johanning and Raymond Born—who have found the answer to high pasture yields.

Mr. Johanning's 45 cow Jersey herd produced the equivalent of 4,615 lb. of milk per acre on a 3.5% butterfat basis in field trials set up in cooperation with Glen Lycan, county agent. The milk yield on the Born farm was 4,945 lb. per acre, on 3.5% basis.

Mr. Werner reports the Johanning's pastures averaged 3,247 lb. of total digestible nutrients per acre, and Mr. Born's pastures 3 271 lb. per acre. This would be equal to nearly 3½ tons of top quality legume hay or 140 bu. of oats, Mr. Werner says.

The fertilizer program on Mr. Johanning's farm calls for 450 lb. per acre of 0-20-20 at seeding time, plus a liberal top-dressing of 10-10-10 and manure the third year after seeding. He leaves his fields in hay or pasture about four years.

Mr. Johanning's pasture improvement program has helped him increase his herd from 20 cows 15 years ago to 45 at present. He has been following a rotational grazing program for 12 years. Year by year he has cut the size of pasture lots and the grazing time on each, until last year he had a strip-grazing setup that gave the cows fresh eating all summer long.

On the Born farm, heavy fertilizing on pasture fields, plus rotational grazing enables him to graze more cows on fewer acres.

★

Fertilizer has helped double the yields of wheat, oats, barley and flax on some Minnesota farms.

Frank Forbes, county district supervisor of the University of Minnesota, recently cited the case of Robert Backstrom, who farms near Warren, Minn., in the Red River Valley.

"Fifteen years ago Mr. Backstrom used to plan on average yields of 20 bu. of wheat per acre, 40 to 50 bu. of oats, 25 bu. of barley and 10 bu. of flax," Mr. Forbes said.

Mr. Backstrom decided that his fields needed fertilizer to return him a profit. He got advice on fertilizing and cropping practices from Mr. Forbes, who was then Marshall County agricultural agent.

How the fertilizer has paid off is shown by the fact that today's wheat yields on Mr. Backstrom's farm are averaging 40 bu. per acre—a 20 bu. increase. Oats yields run 75-90 bu. and in some years have gone as high as 110 bu. Barley is averaging 50 to 60 bu. and flax 18 to 20 bu.

★

Iowa State College agronomists report that corn yields were boosted as much as 30 bu. per acre when balanced amounts of phosphate and potash fertilizer were added to a soil that was already high in nitrogen.

These specialists say that no yield increase was noted when nitrogen was added, because the soil already had sufficient supplies of this nutrient. And only 4 bu. increase came from adding phosphate alone. The upward push in yields came from balanced fertilization.

The soils men point out that balance in fertilization means adding fertilizer nutrients in the proportion needed by the soil for high yields.

The Iowa agronomists emphasize that a balanced fertility program has to be accompanied by an adequate stalk population if you want to get high corn yields. In many cases, they say, farmers do not increase their corn stands when they begin using fertilizer. This can result in less efficient use of the nutrients applied to the soil. With small grains, on the other hand, a balanced fertility program may make it possible to cut down on the seeding rate, because of greater stooling.

★

Two Indiana agronomists report that most farmers are not applying enough fertilizer for maximum profits, even with today's grain prices.

A. J. Ohlrogge and Paul R. Robbins, of Purdue University's agronomy staff, say that many farmers on highly productive, non-erosive soils have not yet moved to heavy fertilization and the more intensive rotations which fertilization makes possible.

"Even with lower grain prices, many of these farmers have a real opportunity to boost profits by intensification of rotations and heavier fertilization, especially with nitrogen," they said.

★

Fertilizer's carry-over power can help build profits in future years after the plant food has boosted crop yields and income the first year.

In Wisconsin tests a 60-bu. increase in grain yields the first year from fertilizer use was followed in the next two years by increases of 2 tons per acre in hay yields.

Iowa agronomists estimate that the average carry-over of nitrogen applied to corn on silt loam and heavier textured soils is about 25%, when the original rate applied was 40 or more pounds of actual nitrogen per acre.

Phosphate carry-over can be as much as 40 to 60% on most Iowa soils, from an application of 40 to 80 lb. of phosphate to corn the previous year. Potash carry-over from corn and small grains can average up to 60% when crop residues are not removed from the soil. The Iowa soils men figure the removal of the straw results in about a 40% carry-over. Removal of the stover in corn results in aobut a 30% carry-over.

★

Fifteen acres of temporary pasture that will support 25 cows for a summer may sound fantastic but that's what Floyd Davidson, superintendent of the Mound Valley Branch Experiment Station of Kansas State College, reported to a group of county agents at a meeting in Iola, Kansas.

The pasture at the station not only carried the cows but it did it on six inches of rainfall where ordinarily there would have been 20. Only cultivation the pasture got was from a grassland drill at planting time. And about the only time the cows had to be taken off the pasture was when it was being shifted from one crop to another.

Pasturing started early in March when the ground was in rye and vetch. It was seeded to sudan in June, and while the sudan was growing the cows were put on another pasture of brome and alfalfa. The cattle were back on the original 15 acres by early July.

Mr. Davidson figured he got about 3 000 cow pasture days from the 15 acres. Ten-inch spacings were used on the drill. Cost was figured at seed plus one dollar per acre for the use of the drill. Fertilizer was applied at the time of planting.

★

Study of run-off losses and animal gains from pasture plots at the Dixon Springs Experiment Station of the University of Illinois over a nine-year period emphasizes the value of soil treatment combined with controlled grazing.

L. E. Gard, run-off researcher at the station, reports that on severely grazed plots soil treatment alone did not cut water losses very much. But water losses were higher on untreated plots during all four seasons of the year when measurements were taken. Moderate grazing was the only factor that really lowered run-off losses. Mr. Gard says.

On the other hand, soil treatment on controlled grazing plots helped the pasture plants to grow more roots. This additional root growth helped to open the soil, make it more porous and hold more moisture in the soil. Shallow-rooted plants on the untreated plots did not help soil porosity so much.

Twelve plots on Grantsburg silt loam were used in the study. Six of the plots were treated with lime and phosphate to the extent called for by soil tests. Six plots were not treated. Three treated and three untreated plots were close grazed, while grazing on the other six plots were controlled

TRAVELING SCHOOL—The turnout at the recent traveling school of the Lincoln Service & Supply Co., Grand Island, Neb., was sizeable. A total of 210 dealers and farmers attended the one-day sessions in McCook, Falls City, Norfolk and Grand Island. This is a segment of the crowd at the Grand Island meeting. The third series of dealer meetings will be held January 7-10 in the same towns.

Traveling School of Nebraska Firm to Hold Third Session for Dealers, Farmers

GRAND ISLAND, NEB.—The "traveling school" of the Lincoln Service & Supply Co., Grand Island, Neb., is holding its third session for Nebraska dealers Jan. 7-10, when one-day meetings take place at McCook, Falls City, Norfolk and Grand Island. Fertilizer merchandising will be the main topic at this series.

A total of 210 dealers and farmers attended the second school Dec. 3-6 in these same towns. Featured on the four-day tour were Proctor Gull, chief agronomist of Spencer Chemical Co., who spoke on starter fertilizers, and Kaspar Peter of Phillips Petroleum Co., who handled the subject of the place of chemically-combined fertilizers in a dealer program. Howard L. Peterson, president of Lincoln Service & Supply Co., and Jack Richards, sales manager, were the speakers for Lincoln.

At the meeting in Grand Island, awards were made to seven outstanding cooperators in Lincoln's high yield demonstration program concluded last fall. The award winners were John J. Vincik, St. Paul; Leo Blaha, St. Paul; Donald Deininger, St. Paul; Alfred Novotny, Elba; Donald McClellan, Palmer; Wilbur Volentine, Kearney, and Paul Fasse, Eustis.

In an earlier school held in November, Joe Tuning, Nebraska sales representative for Spencer Chemical Co., spoke on nitrogen materials; Jack Portz of Western Phosphates handled the subject matter on phosphate; Page Johnson of TVA spoke on di-ammonium and calcium-metaphosphate and Jack Richards of the host organization spoke on potash.

At the January meetings the company's advertising agency, Ayres, Swanson & Associates, Lincoln, Neb., will cover the Lincoln Supply advertising program and will handle the subject of how a dealer can better merchandise fertilizer; Dr. Harvey Stengel of Allied Chemical & Dye Corp., will speak on soil testing and how to make use of simple fertilizer demonstration plots, and Gene Lewis, head accountant and office manager of Lincoln Service and Supply, will discuss costs and margins in the fertilizer business.

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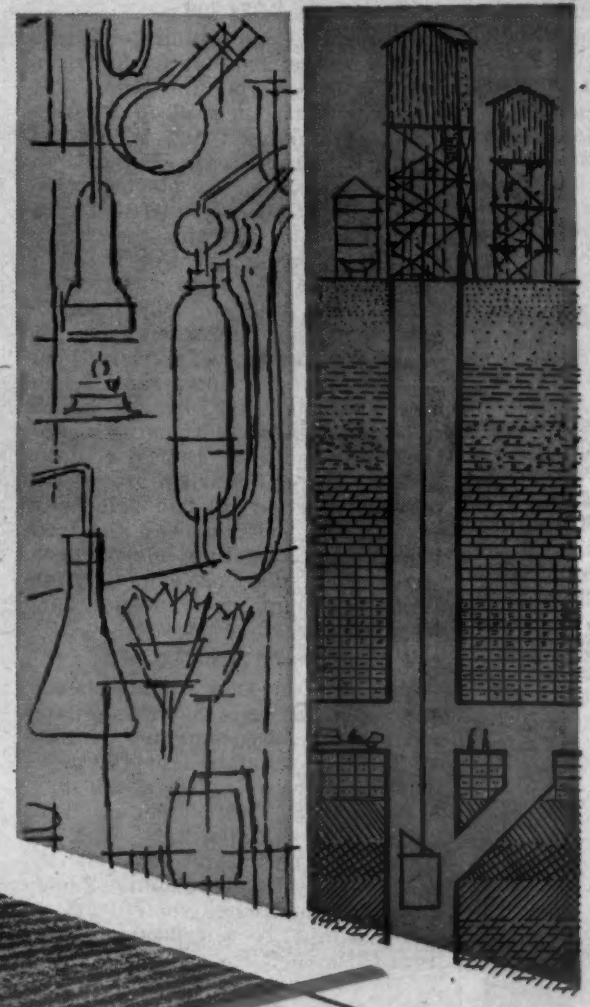

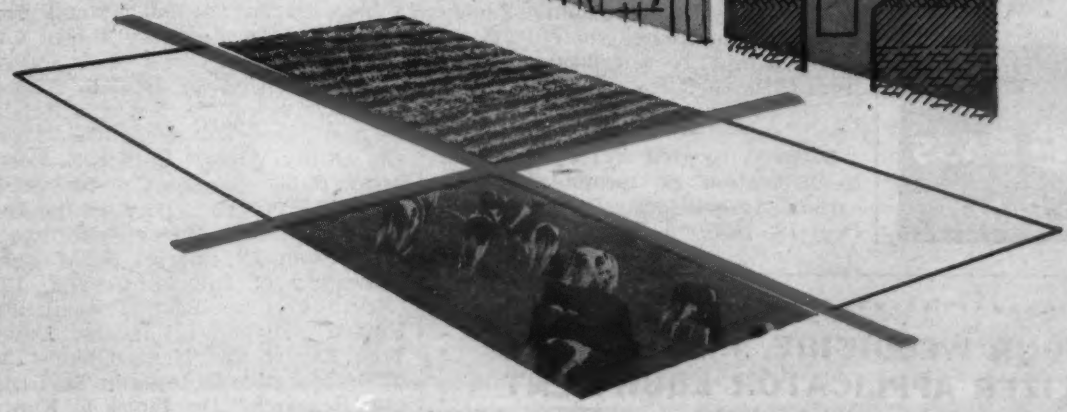

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Industry Patents and Trademarks

2,774,658

Herbicidal Alkyl-Amino-Phosphonium Halides. Patent issued Dec. 18, 1956, to William T. Dye, Jr., Decatur, Ala., assignor to Monsanto Chemical Co., St. Louis, Mo. A method of destroying undesirable plants which comprises contacting said plants with a herbicidal composition comprising an inert carrier and as the essential active ingredient, in a quantity which is injurious to said plants, a phosphonium halide having the formula

in which R is an alkyl radical of from 6 to 22 carbon atoms, X is selected from the class consisting of chlorine and bromine and Y is an alkyl radical of from 1 to 4 carbon atoms.

2,774,659

Polymerization Products of Urea and Alpha, Beta Unsaturated Acids Used as Soil Conditioner. Patent issued Dec. 18, 1956, to Gerhard Abel and Theodor Volker, Darmstadt, Germany, assignors to Rohm & Haas, Darmstadt, Germany. As new compounds, polymerization products of the reaction products obtained by reacting urea with alpha:beta-unsaturated acids of the general formula H_2C CRCOOH where R is selected from the group consisting of hydrogen, alkyl and aryl groups at an elevated temperature below 200° C.

2,774,660

Granulation of Fertilizers. Patent issued Dec. 18, 1956, to Lucien H. Cook, Port Washington and Alexander W. Hodge, Jr., South Ozone Park, N.Y., and John Colonias, Elizabeth, N.J., assignors to Chemical Construction Corp., New York. The process for the production of uniform and moisture-stable granules of a nitrogen fertilizer which comprises: heating said nitrogen fertilizer to a temperature slightly above its melting point; jetting the resulting molten fertilizer upwardly under a positive pressure into an uninterrupted, unidirectional stream consisting of a homogeneous body of liquid; separating such stream into droplets by the forces of gravity and surface tension; countercurrently contacting said droplets with an inert cooling gas and thereby removing moisture from said droplets; and recovering a uniform and moisture-stable product.

2,774,680

Process for Making Aerosol Filters. Patent issued Dec. 18, 1956, to Edward J. Hackney, Charles D. Faucette, and Frederick R. Darkis, Durham, N.C. The process of making an aerosol filter which includes moving a flat band consisting of generally parallel filaments of textile material, all of said filaments bearing a similar electrical charge tending to separate the filaments and a majority thereof being within the field of at least a neighboring filament, into and through an atmospheric suspension of rod-like fibers of diameter not exceeding about 40 microns or the diameter of the filaments whichever is less, and gathering said filaments into a compact bundle in contiguous relation with gas flow passage spaces therebetween in longitudinal relation to said filaments and with said fibers extending across said passage spaces in spaced relation along said spaces.

2,774,706

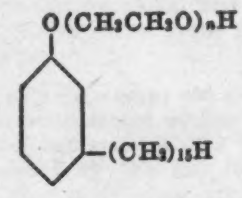
Fungicidal Composition Comprising S-Hydrocarbyl Isothiourea Salts and Method of Applying the Same. Patent issued Dec. 18, 1956, to Johannes Thomas Hackmann and Willem Albertus Pel, Amsterdam, Netherlands, assignors to Shell Development Co., Emeryville, Calif. A fungicidal composition comprising an aqueous medium, a surface-active wetting agent and a fungicidal toxic amount of isothiourea salt, the isothiourea portion of said salt being chosen from the group consisting of S-alkyl isothiourea wherein said alkyl radical contains between 4 and 16 carbon atoms and S-phenylalkyl isothiourea wherein said phenyl alkyl radical contains between 1 and 16 carbon atoms, and the acid portion of said salt being an acid of an element selected from the group consisting of nitrogen, phosphorus, sulfur, selenium, tellurium, chromium, molybdenum, and tungsten.

2,774,708

Alkyl Dimethyl Dichlorobenzyl Ammonium Mercaptobenzothiazolates and Pesticidal Concentrates Containing the Same. Patent issued Dec. 18, 1956, to Sylvan I. Cohen, Flushing and Martin S. Frant, Ossining, N.Y., assignors to Gallowhur Chemical Corp., New York. An alkyl dimethyl dichlorobenzyl ammonium 2-mercaptobenzothiazolate, wherein alkyl means a mixture of radicals ranging from C_8H_{17} to $C_{18}H_{37}$.

2,774,709

Polyoxyethylated Alkyl Phenol Emulsification of Insoluble Hydrocarbon Insecticides. Patent issued Dec. 18, 1956, to Raymond L. Mayhew, Phillipsburg, Leslie G. Nunn, Plainfield, and Robert L. Sundberg, Alpha, N.J., assignors to General Aniline & Film Corp., New York. An emulsifiable mixture comprising a water-insoluble liquid hydrocarbon and about 1 to 60% by weight of the mixture of a compound having the formula



wherein n has a value of from 3 to 15.

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Industry Trade Marks

.The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

Onex, in capital letters, for rat and mouse killer bait. Filed April 17, 1956, by Hydroponic Chemical Co., Inc., Copley, Ohio. First use March 22, 1956.

Drawing in circle, of bridge and tower design, for fertilizers. Filed March 7, 1955 by Farwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main Hochst, Germany.

Drawing of crown over capital letters, "C-Z", for solids of waste sulfite liquor, for use as a fertilizer and soil conditioner. Filed Oct. 17, 1955, by Crown Zellerbach Corp., San Francisco. First use September, 1954.

Program Announced For Midwest Shade Tree Conference

MILWAUKEE — The 12th annual meeting of the Midwestern Chapter of the National Shade Tree Conference wil be held Feb. 13-15 in the Pfister Hotel, Milwaukee.

The convention is open to all who wish to attend. Registration of delegates will start at 8:30 a.m., Feb. 13, and the first paper on the educational program will be presented at 11 a.m. An attendance of approximately 300 members and guests is expected.

The program is primarily directed to discussion of problems of concern to those who perform tree work in the Midwest, but included also are topics of interest to arborists from all sections of the country.

Included on the educational program are the following topics and speakers:

"Growing Up," Dr. Paul E. Tilford, executive secretary, National Arborist Assn., Inc., Wooster, Ohio; "Trees and Utility Wires," Luther E. Lockwood, Public Service Co., Maywood, Ill.; "A Progress Report on the Use of Chemicals in Burning Hardwood Tree Stumps," Charles S. Walters, University of Illinois, Urbana, Ill.; "Brush Control—Past, Present and Future," Homer L. Jacobs, Davey Tree Expert Co., Kent, Ohio; "Use of Radio-Active Isotopes in Tree Disease Research," Dr. James E. Kuntz, University of Wisconsin, Madison, Wis.; "An Evaluation of Mist Blowing and Sanitation in Dutch Elm Disease Control Programs," J. G. Matthysse, Cornell University Agricultural Experiment Station, Ithaca, N.Y.; "Tree Anatomy and Function," W. H. Bragonier, Iowa State College, Ames, Iowa; "Natural Occurring Antimycotics in Relation to Wood Decay," E. S. McDonough, Marquette University, Milwaukee, Wis.; "The Rival World"—a film in color and sound produced by the Shell Chemical Corp., New York.

NEBRASKA CONFERENCE

LINCOLN, NEB. — The Nebraska Weed and Insect Control Conference will be held at the University of Nebraska here Jan. 10-11.

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Gloomicides

Guy: "My gal has the worst memory in the world."

Another Guy: "She forgets everything, huh?"

Guy: "No, she remembers everything."

★

"Does the doctor think your wife is going to die?"

"Dunno. He told me to prepare for the worst and durned if he ain't got me guessin'."

★

A draftee was shaken by his platoon sergeant after the rookie's first night in an Army barracks.

"It's four-thirty!" bellowed the sergeant.

"Four-thirty!" gasped the draftee. "Man, you better go to bed! We got a big day tomorrow!"

★

Young guy was preparing to marry a gal, as sometimes happens, but one thing bothered him: she stipulated that she'd make that trip to the altar only if he would pay off all her widowed father's debts.

"Looky here, honey," he said one night, "I've been thinking this thing over. Before I marry you and pay off your father's debts, there's one thing I'd like to know:

"Who got your old man in debt in the first place?"

★

Several days after his father died, little Johnny was stopped in the street by a kindly neighbor. "And what were your poor father's last words?" the neighbor asked.

"He didn't have any," Johnny replied. "Mother was with him to the end."

★

Rastus: "Yessuh, I done found out that honesty is the best policy after all."

Mose: "How come?"

Rastus: "You remember that dawg I stole last week? Well I tried to sell it for two whole days and nobody would give me more than a dollar for it, so I took it back to the owner and collected the reward. She gave me five dollars."

★

It was at a civil defense meeting in a western city and the subject under discussion was how to protect the city's homes in the case of a bombing attack. After a long talk about the ways and means that the people in the fringe areas could survive, the speaker turned to a man sitting in the front row and said:

"However, if you happen to live directly under the falling bomb, you'd have no chance at all."

The man in the front row turned pale and started to shake.

"But don't worry," said the speaker consolingly, "the chances are more than a million to one that you'll miss being hit."

"Don't talk to me about chances," replied the man. "Last year I won the Irish Sweepstakes!"

★

The electrician was puzzled. "Hey," he called to his assistant, "put your hand on one of those wires." The assistant did as he was told.

"Feel anything?"

"No."

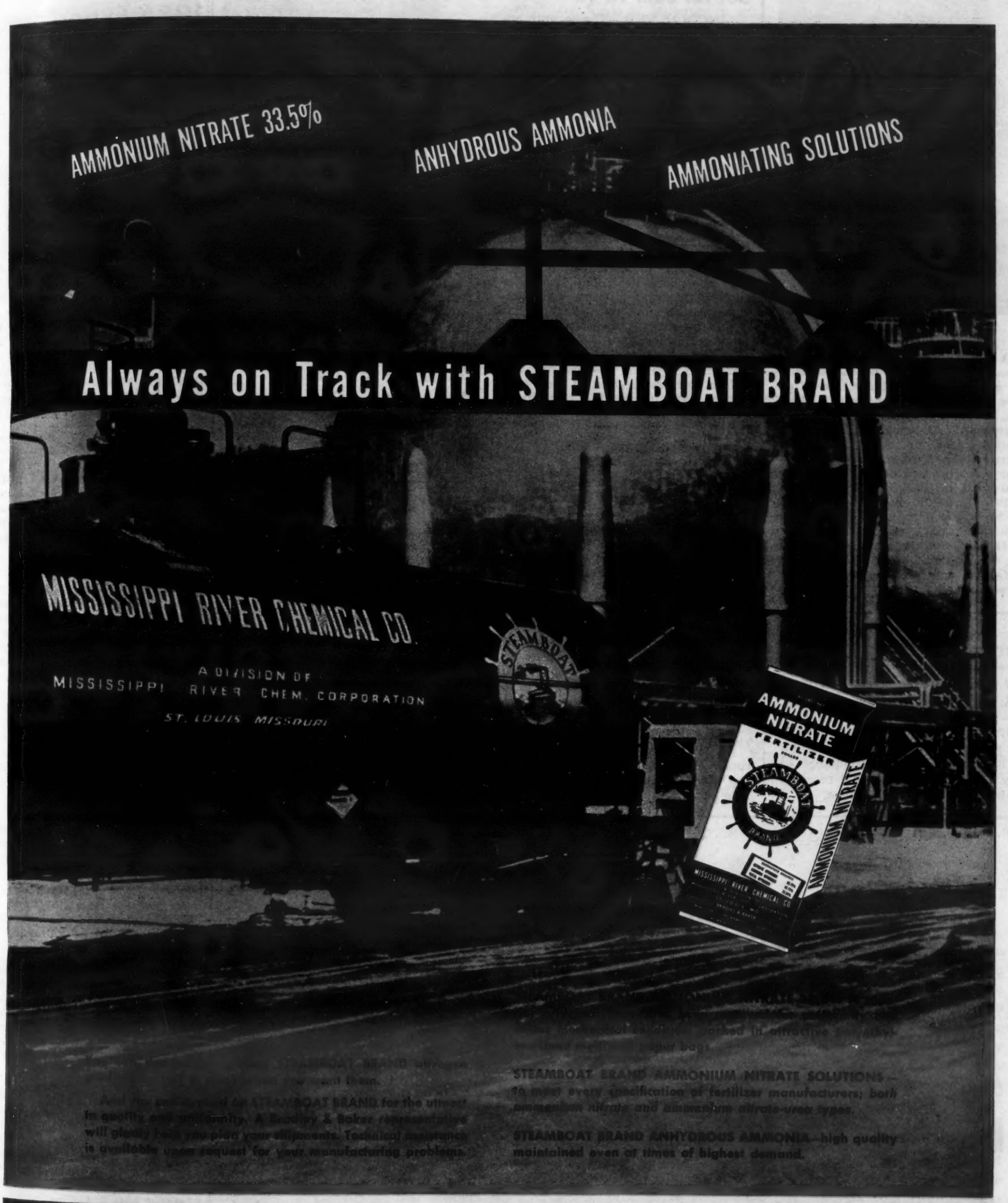
"Good," said the electrician. "I wasn't sure which was which. Don't touch the other or you'll drop dead."

★

Youth: "Did anyone ever tell you how wonderful you are?"

Miss: "No, I don't think anyone ever did."

Youth: "Then I'd like to know where you got the idea."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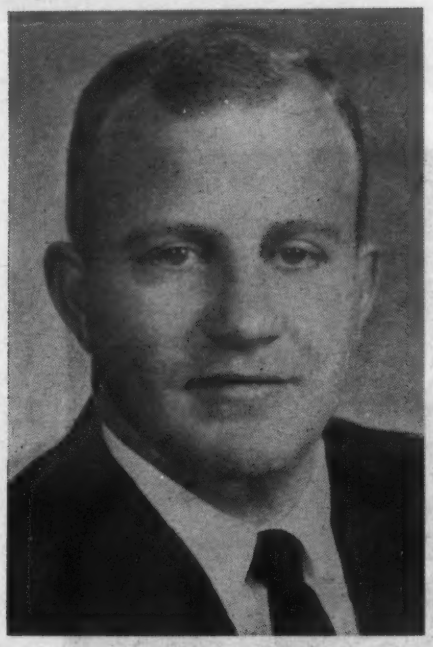

Harry Carroll

PCA APPOINTMENT — The Potash Company of America has announced the appointment of Harry Carroll as sales representative for Texas, Louisiana, Mississippi and portions of Arkansas and Alabama. He succeeeds Shelton Appleton, who has been transferred to PCA's midwestern territory. A graduate of the University of Georgia in 1950, Mr. Carroll came to PCA immediately after service in the Navy. Formerly he was associated with the Atlanta, Ga. school system. W. H. Appleton, the company's Southern Sales Manager, located in Atlanta, Ga., will work closely with Mr. Carroll.

MORE ALFALFA

ST. PAUL, MINN.—Alfalfa yields were boosted more than a ton and a half per acre when lime, fertilizer and manure were added in Minnesota tests, reports Wallace Nelson, University of Minnesota agronomist. He says the fertilized alfalfa yielded 3½ tons per acre, compared to only 1.9 tons when the field received no lime, fertilizer or manure.

Nebraska Fertilizer Dealers Conference Set for Jan. 15-16

LINCOLN, NEB.—The seventh annual Nebraska Fertilizer Dealers Training Conference will be held on the campus at the University of Nebraska College of Agriculture Jan. 15-16, according to M. D. Weldon, extension soils specialist at the university.

The purpose of the meetings is to acquaint the dealers with the latest results of fertilizer experiments on Nebraska's leading crops throughout the state.

The effects of moisture supply on corn and wheat yields and on fertilizer results will be presented at the meeting. The latest information on the different carriers of nitrogen and phosphorus will be given. Results with dry fertilizers and solutions will be compared.

The meeting is sponsored jointly by the University of Nebraska College of Agriculture and the Nebraska Fertilizer Institute. The Institute will hold a business meeting on the morning of Jan. 16, for the election of officers and other matters.

Credit Problem

SAN FRANCISCO — The Agricultural Aircraft Assn., Inc., reports farm loan institutions usually have been unwilling to assist the association in collecting legitimate bills from farmers. The association, which has been working to acquaint financing institutions which make farm crop production loans with their collection problems, has found most of these agencies are aware of the difficulty but can offer no immediate solution. Most of the budget loans made by these lending agencies include association services, but there is no way to guarantee the money in this budget will be so used.

SHORT COURSE

CORVALLIS, ORE. — A short course for nurserymen and landscapers will be held at Oregon State College here Feb. 5-6.

Carl A. Vill

Carl A. Vill Named Assistant to Vice President by Chemico

NEW YORK—Carl A. Vill has been appointed assistant to the vice president of Chemical Construction Corp., a subsidiary of Electric Bond and Share Co.

Other posts held by Mr. Vill, since joining Chemical Construction Corp. in 1934, have been director of engineering as well as project manager on numerous chemical and petrochemical plants designed and built throughout the world by the firm. He was also resident engineer on the large ammonia-producing facilities designed and built during World War II for Army Ordnance at Ozark, Ark.

Prior to joining the company, Mr. Vill was engaged in the design of ammonia and nitric acid plants with the Nitrogen Engineering Corp., owners of the basic patents for the manufacture of synthetic ammonia, which company was subsequently absorbed by Chemical Construction Corp. Mr. Vill is a graduate of Cooper Union with a degree in civil engineering.

USDA Reports Research Gains in 1956 Experiments

WASHINGTON, D.C. — U.S. Department of Agriculture research made some significant strides during 1956, uncovering new knowledge in the fields of insect control, insect resistance, systemics, plant disease, livestock breeding and the utilization of numerous other findings having to do with farming in general. Cooperating in many of these research achievements were state agricultural experiment stations in all parts of the country and research workers in a number of industrial and other private concerns.

Research on insecticides and attractants for use against the Mediterranean fruit fly made possible a large scale program to eradicate this serious pest of citrus and other crops discovered in Florida in April, 1956. By the end of the year, Medfly numbers had been drastically reduced and prospects were good that the country would be free of this insect before the end of 1957.

Weed killers were also included in the significant research achievements of 1956, USDA reports. Two experimental compounds, 4(2,4-DB) and 4(MCPB), proved effective in test trials against broad-leaved weeds in fields planted to crops which are easily injured by commonly-used weed killers.

A plant growth regulator, gibberellic acid, showed a marked effect on the growth and flowering of certain plants. In some cases, the report says, applying minute amounts of the chemical to the stems caused plants to grow much taller than normal.

Radioactive tracers revealed how some insects develop resistance to insecticides. Scientists also learned how to trace with Geiger counters the paths of "tagged" insects—even those beneath the soil or bark of trees.

A new insect repellent, N,N-diethyl-m-toluamide, was found to be effective against mosquitoes, stable flies, fleas, ticks, and chiggers.

A virus-disease spray to control the Virginia pine sawfly proved successful in localized tests. Virus from naturally infected sawfly larvae was used.

A new systemic insecticide, Dow ET-57, given by mouth to cattle, showed promise for cattle-grub control.

When freed of crop-destroying nematodes by new fumigants, soils produced crops valued 4 to 10 times the cost of fumigation. One friendly nematode was found that transmits a bacterial disease highly destructive to several injurious insects.

Other significant developments were reported in the field of livestock breeding and nutrition, and in studies on plants and their improvement through breeding and high-energy radiation. In the case of cotton, work has been begun to learn whether irradiated cotton can be used for useful new textile products or will have increased value in various present uses.

STOCK PURCHASED

SAINT LOUIS, MICH. — Michigan Chemical Corp. has announced consummation Dec. 14 of the agreement entered into on Sept. 7, between that company and a group headed by the Pennroad Corp., Webster Investors Inc. and American Manufacturing Co. By this action 150,000 shares of the chemical company's authorized, but unissued common stock have been purchased by the above companies. It is presently contemplated that the approximate $2½ million thereby made available will be employed by Michigan Chemical in plant expansion programs.

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SELL THE ONE THAT'S EASIER TO SELL—ARMOUR'S

A. L. Wigger

INS BRADLEY & BAKER—Brad- & Baker, New York, sales repre- tatives and distributors of fertil- rs and feeds, has named A. L. gger as a field salesman to be ed in its St. Louis office. Mr. Wig- was formerly associated with n Mathieson Chemical Corp. and agricultural chemicals division of tsburgh Coke & Chemical Co.

abama Agronomist phasizes Need r Soil Testing

AUBURN, ALA.—J. C. Lowery, bama Polytechnic Institute exten- n agronomist, said recently that bama cotton farmers should have tests made each year to discover t what needs to be added to make best possible annual yields. Most ton growers have tests made only e every three years, but soil needs change in just a year's time.

Mr. Lowery pointed out that many bama cotton growers do not make money they should simply because y are not using enough nitrogen lime.

He added that under normal owing conditions, the 1957 state- de cotton yield average would sily go well over a bale per acre, growers would add the right nount of nitrogen and lime.

These two are the big items needed Alabama soil for good cotton yields. ny farmers over the state are not ng enough nitrogen, and more than -third of the state's cotton lands ds liming, Mr. Lowery said. Lack ime in the soil can lead to "crinkle " in cotton plants. According to U.S. Department of Agriculture condition is increasing in Ala- na.

rasite Search

ACRAMENTO—A University of ifornia entomologist, Dr. Paul H. Bach of the department of bio- cal control on the Riverside cam- is on a round-the-world search parasites to control red scale, ifornia's worst citrus pest. He will t wild and cultivated citrus in countries in a hope of finding para- s hardy enough to survive the ex- mes of Southern California's cli- te. Areas to be visited include waii, Japan, Formosa, Hong Kong, rma, India, Pakistan, Iran, Turkey, ece, Italy and Spain. One objec- of the trip is to find a hardier tive of the tiny wasp, Aphytis, ch already has proved itself a thy opponent of the red scale in California area.

REEN PASTURE MEETING

URLINGTON, VT. — Pasturama, first statewide meeting of the en Pastures Council Inc., will be at the Cobble Hill Grange, Barre, Jan. 23.

X-Ray Equipment Being Used for Soil Tests in Illinois

URBANA, ILL. — Soil scientists at the University of Illinois are now using X-ray equipment to identify the different minerals and chemical elements in soils. A. H. Beavers reports that Illinois is one of the first soil laboratories to do this.

Mr. Beavers points out that about 95% of the soil is made of minerals of different sizes. With the help of X-ray equipment, the tiny clay mineral portions can be identified.

With X-rays, the scientists can identify practically all the different chemical elements in a soil sample in about 45 minutes. The old laboratory method of total chemical analysis takes so long that the cost makes it prohibitive.

Major use of this new equipment will be in soil surveys, soil mapping, and in special soil research projects.

Another project is a study of the minerals and elements of loess, a fine material from which about 70% of Illinois soils have developed. With the use of the X-rays, Mr. Beavers is studying the changes in loess as soils develop from it.

When the kinds of minerals in a soil are known, it is possible to judge the water holding capacity and ability of the soil to grow different crops.

Gale Hanson to Join United Heckathorn

SAN FRANCISCO — Gale Hanson, Washington, supervisor of agricultural aircraft for the Civil Aeronautics Administration, will leave his post in February to join United Heckathorn of Richmond, Cal., according to spokesmen for that company.

United Heckathorn specializes in the production and application of agricultural chemicals and has extensive aerial operations throughout the United States. Mr. Hanson is expected to have over-all supervision of all of the firm's aerial operations.

TVA Reports on Fertilizer Output In Fiscal 1956

WASHINGTON—TVA plants produced 257,700 tons of concentrated phosphate and nitrogen fertilizers in fiscal 1956, according to the annual report of the agency, released Jan. 1. Total amount of fertilizer shipped for TVA educational programs was about 263,000 tons.

The agency also reported that it issued 25 nonexclusive royalty-free licenses to fertilizer, chemical and equipment manufacturing companies for use of TVA patented processes.

"A continuous ammoniator developed by TVA in 1953 was in wide use by industry," the report stated. "It was estimated that of 2 million tons of granular fertilizers made in the U.S. during the year two thirds were made by TVA-developed methods."

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California Weed Conference Scheduled At Fresno Jan. 22-24

SACRAMENTO—New methods and weapons in the unrelenting war against multi-million dollar losses in California from weeds will be discussed at the ninth annual California Weed Conference opening in Fresno Jan. 22.

Sessions in Fresno Memorial Auditorium will cover weed control on farms and in forests, new developments in control materials and methods, late reports on weed research and brush control work.

James W. Koehler of Pomona, president of the conference, will preside. He will be assisted by John I. Polson, Fresno county agriculture commission inspector, chairman of the arrangements committee.

Registration of at least 500 delegates from the ranks of state and federal weed control workers, irrigation and reclamation officials, county agriculture commissioners, farm advisers, chemical manufacturers' representatives and pest control service operators is expected.

Two Fresno men, Ray C. Crouch, county farm adviser, and Dr. G. F. MacLeod of Sunland Industries, Inc., will serve as panel moderators. Speakers will include Waldo Weeth, Coalinga beef cattle breeder and seed grower; W. L. Berry, chief engineer, California Department of Water Resources, and Lloyd Dowler, dean of agriculture at Fresno State College.

Other officers of the association are Vernon I. Cheadle, vice president, head of the department of botany at the University of California, Davis, and J. T. Vedder of Sunland Industries, Inc., Fresno, treasurer.

Panel on Guarantee Change Set for Pennsylvania Meeting

UNIVERSITY PARK, PA.—A panel discussion of problems in converting to the elemental basis for fertilizer guarantees will be one of the highlights of the Fertilizer and Lime Salesmen's Conference, to be held at Pennsylvania State University Jan. 23-25.

Appearing on the panel, to be held during the afternoon of Jan. 23, will be Rodger C. Smith, Eastern States Farmers Exchange, J. H. Eakin, Jr., Penn State extension agronomist, and D. P. Satchell, department of agronomy.

Penn State staffers will fill most of the speaking posts during the conference. The morning session Jan. 24 will deal with fertilizer and lime placement problems, and the afternoon session will be on fertilizer management problems.

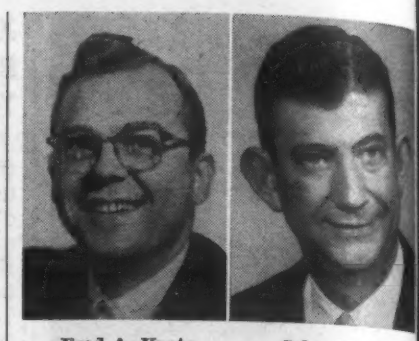
Dr. Firman E. Bear, Rutgers University, will speak on "A Look at Agriculture of the Orient" at the banquet the evening of Jan. 24.

The Jan. 25 morning session will deal with problems associated with inadequate liming.

Kraft Bag Appoints Sales Representative

NEW YORK — The Kraft Bag Corp., manufacturer of multiwall shipping sacks, has appointed Ted Belfit as sales representative in Pennsylvania, New Jersey and the Metropolitan New York area, taking over duties formerly handled by John Wallace.

Mr. Belfit is a graduate of Dartmouth and was for 4 years a member of the faculty at Columbia University. He started his selling career with the Gummed Tape Division of Gilman Paper Co., of which Kraft Bag Corp. is a wholly-owned subsidiary. The company operates multiwall bag plants in Gilman, Vt., and St. Marys, Ga.



Fred A. Kusta John Carson

Fred A. Kusta and John Carson Join Vulcan Steel Container

BIRMINGHAM, ALA.—Fred A. Kusta has been named general plant manager and John Carson, superintendent of Vulcan Steel Container Co., Birmingham, according to announcement made by Gordon D. Zuck, company president.

Mr. Kusta had many years of experience in pail and drum manufacturing and management. He previously held a similar position with Inland Steel Container Co. in Cleveland, and with Cleveland Steel Barrel Co. He has also been in the tool, die and machinery building business. He is a mechanical engineer having graduated from Ohio-Northern University. He will have charge of all pail and drum manufacturing at the company's main office and plant in Birmingham.

Mr. Carson has had many years of production, tool, die and machinery experience in can, pail and drum making. He is a native of Georgia but for several years has been in the container business in Ohio, having served with Cleveland Steel Barrel Co., Fram Corp. and Inland Steel Container Co.

Vulcan Steel Container Co. recently completed building a new addition to its main plant in Birmingham which increases its facilities by over 50%. Several new sizes and types of containers are being added to the line, according to Mr. Zuck's announcement.

L. Graham Campbell Receives Citation

NEW BRUNSWICK, N.J.—L. Graham Campbell, Chamberlain Barclay Co., Hightstown, N.J., has been given a citation for outstanding contributions to New Jersey agriculture by the E. B. Vorhees Agricultural Society.

The citation pointed out that he once was a member of the Rutgers' plant pathology department staff and later, while with the Trenton Bone Fertilizer Co., set up the first soil testing service in use by a commercial organization in New Jersey.

"For the past 17 years you have worked with the Chamberlain Barclay Co. where you developed another soils analysis service as well as worked with pesticides, fertilizers and potato programs," the citation said. "You are best known . . . for your unselfish service to and concern for all farmers regardless of financial return to yourself or to the company by which you are employed."

Nebraska Institute Schedules Meetings

LINCOLN, NEB.—Group meetings of the Nebraska Fertilizer Institute will be held during the latter part of January. Tentative dates and places are Jan. 28, Norfolk, Hotel Madison; Jan. 29, Kearney, Hotel Kearney and Jan. 30, Lincoln, Hotel Cornhusker.

Dr. Chapman, of the University of Wisconsin, will appear at the three meetings.

Results of an institute survey of costs and margins in selling fertilizer in Nebraska will be reported. Each meeting will begin with a noon luncheon.

ESA MEETING

(Continued from page 1)

ulation was lost in five days." he authors concluded that borer ntrol is related to the number of wly-hatched larvae on the plant the time of the insecticide ap- lication.

Drs. Cox and Brindley also present- another paper on the "Time of In- ticide Applications in European rn Borer Control," in which the ectiveness of various types of con- l were studied to determine the timum time of application for best ntrol.

Factors investigated included egg osition, egg hatching, moth emer- nce, plant height, leaf damage, tem- rature accumulation, and tassel d-plant height ratio, in relation to ecticidal control of first brood ropean corn borer over a period of years.

The control of plum curculio with l insecticides was the subject vered in a paper by Oliver I. Snapp, tomology Research Branch, Ft. lley, Ga. He reported that aldrin s found to be an effective toxicant ainst plum curculio during its im- ture stages for a period of at st four years after the pesticide d been worked into the soil.

Dieldrin, he said, was a little ore effective than aldrin during he fourth year, but less effective uring the first three years. Hep- achlor was reported to be "very ffective" for at least three years, nd chlordane was effective for at east one year.

Isodrin was comparatively ineffec- e in these experiments, the speak- said. The results from soil plot sts were confirmed in large-scale ach orchard tests, Mr. Snapp re- rted.

D. W. Hamilton and M. L. Cleve- nd of the USDA Entomology Re- arch Branch, Vincennes, Indiana, ported on their experiences with yania for control of codling moth d other apple pests. "Ryania was aluated for codling moth control in 45, and found highly effective, but s so than DDT," they said. "It was -evaluated for codling moth control 1953 and has been tested annually nce that period. In 1955 and 1956 equaled or excelled DDT, possibly cause of the development of re- tance by the codling moth to DDT. "Ryania is relatively ineffective for ntrolling pests of apples other than e codling moth, such as orchard tes, plum curculio and red-banded af roller. Large scale orchard ex- riments suggest that some pests ay be held in check by ryania, ving to its low toxicity to preda- ous forms of mites and insects that ed on them.

"Leafhoppers, however, tend to in- ease more in ryania plots than in DT plots," the paper concluded.

A paper, "The Effect of Soil In- ticides on Plants and the Resulting fect on Mite Nutrition" was pre- nted by J. G. Rodriguez, University Kentucky, Lexington. The study ported included the effects of DDT, drin, dieldrin, chlordane, BHC and dane in the soil on plants such as ans, cotton, soybeans and apple es, along with the resulting effect mite development.

"Data on plant growth show that reatment of the soil may stimulate r depress growth, depending upon he amount and kind of inseticide sed," the author pointed out. "Some effects of insecticides on ite population were noted, the ost consistent effect being the de- ression of populations by extreme- high levels of BHC and lindane.

"Analyses of nitrogen, phosphoric id and potash showed that they re influenced but little by insecti- le treatment, as were the amino ids which commonly occur in nts. Studies with sugars were more revealing; addition of chlorinated hydrocarbons increased glucose content of the foliage," it was concluded.

Malathion in spray form added to wheat at dosages as low as 10 parts per million, gave complete protection against granary weevils for three months, it was reported in a paper presented by K. S. Gore and H. H. Schwardt, Cornell University, Ithaca, N.Y. During the same period, check samples were totally ruined by the weevils, they reported.

In residue tests, it was found that at the end of the three month period, wheat that had been treated at the rate of 10 and 20 ppm levels, contained an average of less than 2 ppm of malathion residue. Using the same techniques, malathion dusts at dosages of 2½ and 5 ppm were ineffective against the granary weevil.

Two other Cornell scientists, C. S. Koehler and George G. Gyrisco, prepared a paper on the systemic action of lindane in alfalfa upon the meadow spittlebug. Their tests showed that lindane is capable of acting as a systemic insecticide when applied to alfalfa foliage or to the soil in which alfalfa is growing.

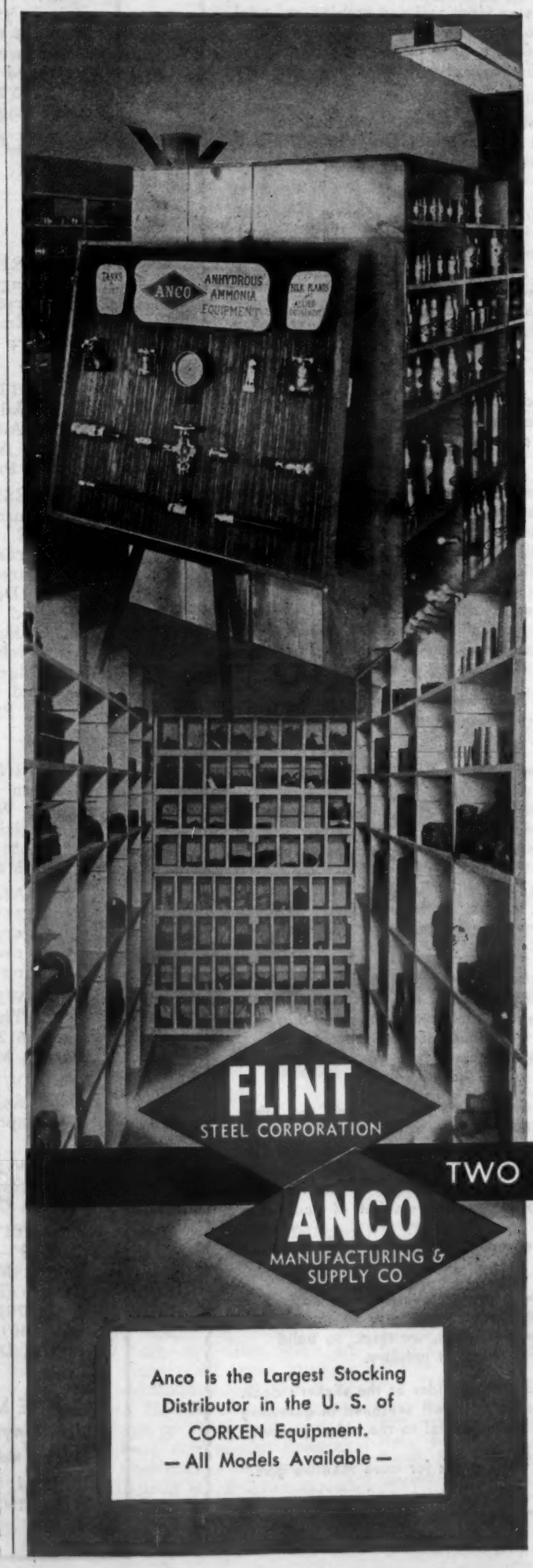
"In some cases, systemic action persisted for a period of at least six weeks," they reported. The authors added that all experiments were conducted under conditions which eliminated the possibilities of fumigant and contact action from interfering with systemic action.

Control of the fall armyworm in Colombia was described in a paper by Robert F. Ruppel, Rockefeller Foundation, Colombia, who reported that "excellent control" of this pest was obtained from sprays of aldrin, heptachlor, or isodrin applied at the dosage of 0.5 kilo per hectare; endrin or parathion at 0.25 kilo per hectare, or toxaphene at 2 kilos per hectare. Dusts, he said, have been of little value in killing the budworm form of Laphygma, but a 5% toxaphene bait has proved effective.

To be effective, the paper stated, a series of applications of the sprays or baits must be applied between germination of the crop and the time that the plants are about 50 or 60 centimeters tall.

ESA ELECTS OFFICERS

NEW YORK — H. M. Armitage, University of California, became president of the Entomological Society of America at the group's fourth annual meeting at the New Yorker Hotel here Dec. 27-30. Dr. Armitage succeeds Bennet A. Porter, USDA entomology research branch, Beltsville, Md. Named as president-elect, to take office at the fifth annual meeting of ESA to be held at the end of 1957 in Memphis, was Dr. Robert L. Metcalf, University of California, Riverside, Cal.



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Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

A Birthday Observation

Croplife turns the corner into its fourth year of publication this month—a time, naturally, for a little thought by Croplife staffers on where we have been and where we are going.

As grateful as we are for the support of advertisers and readers in our three years on the scene, we won't make this piece the vehicle for the usual platitudes. Rather, we'd like to express, again, our philosophy of businesspaper publishing, which, in the case of Croplife, brings us down to the very bedrock of the industry we are trying to serve.

For we have hitched our kite on what we believe to be an intelligent and growing and vital industry—and one essential to the very mainstream of U.S. life to boot. And as we have said many times before and as we will say many times again (and hope to prove by performance) we are asking nothing from the industry or from its allied branches save that which we can earn by the job we do.

And this is no naive view with which we try to bait a trap, but rather, we believe, it is one that serves our own interest best. This is true because the industry with which we are working, already a vital force, is only just now on the threshold of achieving its almost limitless potential.

All over the farm community, these days, there are stirrings as agriculture moves somewhat slowly, but nevertheless surely, towards that happy land of efficient production. These changes are everywhere—some sociological, some economical, some just brute and unyielding change.

And, taking the long view, there isn't likely to be any change in U.S. agriculture that won't be good for the country, the consumer or the farm chemical industry.

The near spectacular progress of the industry during the past several years—in new plants, new products and new processes—is, in one sense, a catalytical agent that is hustling along the farm changes. Many of the tools needed for the new concepts of efficient farming come from the hoppers of the farm chemical industry.

But, while recognizing the importance of the technical and production wizardry achieved by the industry, we believe that this must be matched by equal skills in the broad concepts of marketing. Only with such skills can the industry meet the new challenges of this changing agriculture.

Horizontally, through the various segments such as fertilizer mixers, pesticide formulators, basic producers and others, and vertically, from mine to consumer, we look upon all these segments as one industry, and one of our editorial purposes is to hasten the acceptance of this concept.

We believe that, while some of the motion in this direction can be governed only by a natural evolution of industry, a soundly-edited and well-read businesspaper can work, in its own way, some transition for the better. We are dedicated to a belief that the industry can reach its great potential only after it achieves vertical responsibility for marketing—in which the functions of marketing in the very broad sense are shared by all who have a hand in mining, mixing, formulating, distributing and selling.

There should be no bill-of-lading curtain between those who make and those who sell; between those who mix and those who distribute; between those who formulate and those who merchandise.

The job is formidable enough to require the best from all in the industry. But it is a job that needs doing, and it is a job worth doing.

There are two ways, we feel, that Croplife is contributing to this important task of building a unified and integrated agricultural chemical industry.

(1) Through its editorial, news and feature columns, Croplife is dedicated to the job of informing, educating and assisting in every way the entire industry;

(2) Croplife, through its advertising columns, makes available a medium which can be used by responsible firms in the industry to do their part of the job, contributing their individual forces toward attaining the broad objective while at the same time informing and educating with the story of their own individual programs.

Croplife offers its advertisers unique opportunities—to use it as a sales tool, playing an important part in the short-range marketing programs and as a forceful voice in the long-range shaping of the industry's progress. It is for these reasons that we invite the industry's advertisers to use Croplife as a medium for their messages—and we will continue to ask. We will be persistent. We will come often. We think it is important.

We do not think there is anyone in the industry who can afford to look the other way while someone else runs the store. Everybody is needed behind the counter.

In a day not far away, the farmer will no longer ask, "Should I try it?" Instead, he'll ask, "How much do I use to do a profitable job of farming?"

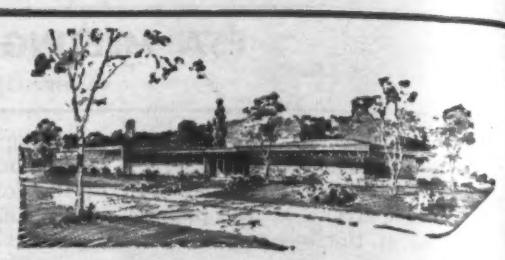
We hope so to conduct our business here and our personal relationships in the fields of advertising sales and gathering news that we will be, not only with you, but of you, when that day comes.

And, just to sum up our philosophy of Croplife, we repeat the words with which we launched the first issue three years ago:

"Properly done, a new publication is launched with prayer, nourished by hope, sustained by faith and supported by unbounded confidence in the industry which it is to serve. Croplife has all of these in generous measure—enough, we think, to build a sound and useful business journal for the agricultural chemical industry.

"Our tools of the trade are not the tin cup, the chip on the shoulder or the slicker's deck. They are, rather, the publishing know-how of an 80-year-old firm, a staff seasoned in gathering and editing trade news and a willingness to let our success be incidental to the industry service that we can render.

"We may build slowly, but we will build well, and we will not ask for more than we give."



Croplife

BPA — *Member of Business Publications Audit*

NBP — *Member of National Business Publications*

CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG
Editor

DONALD NETH
Managing Editor

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EXECUTIVE AND EDITORIAL OFFICES — 2501 Wayzata Blvd., Minneapolis, Minn. Tel. Federal 2-0575. Bell System Teletype Service at Minneapolis (MP 179), Kansas City (KC 295), Chicago (CG 340), New York (NY 1-2452), Washington, D.C. (WA 82).

Published by
THE MILLER PUBLISHING CO.
2501 Wayzata Blvd., Minneapolis, Minn.
(Address Mail to P. O. Box 67, Minneapolis 1, Minn.)

Associated Publications—THE NORTHWESTERN MILLER, THE AMERICAN BAKER, FEEDSTUFFS, MILLING PRODUCTION

MEETING MEMOS

n. 8-9—Michigan Insecticide-Fungicide Conference, Kellogg Center, Michigan State University, East Lansing, Mich.

n. 13-15 — Garden Supply Show, Kingsbridge Armory, New York.

arch 5-6—Western Cotton Production Conference, Hotel Westward Ho, Phoenix, Ariz.

EDITOR'S NOTE—The listings ove are appearing in this column r the first time this week.

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n. 8-9—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

n. 9-10—Eleventh Annual Wisconsin Insect Control Conference, Sponsored by the Entomology Dept., University of Wisconsin, Loraine Hotel, Madison, Wis.

n. 10-11—Nebraska Weed and Insect Control Conference, University of Nebraska, Lincoln, Neb.

n. 10-11—Annual Pesticide School, North Carolina State College Union, Raleigh.

n. 10-11—Mississippi Insect Control Conference, third annual meeting, Mississippi State College, State College, Miss.

n. 10-12—Northeastern Weed Control Conference, McAlpin Hotel, New York.

n. 15-16—Georgia Plant Food Educational Society, Fourth Annual Meeting, University of Georgia, Athens, Ga., Joint Meeting with Georgia Section, American Society of Agronomy.

n. 15-16—Nebraska Fertilizer Institute, Inc., College of Agriculture, University of Nebraska, Lincoln. Howard W. Elm, 917 Trust Bldg., Lincoln, Neb., executive secretary.

n. 15-17—North Carolina Pest Control Operators' Short Course, College Union, Raleigh, N.C. Clyde F. Smith, head, Dept. of Entomology.

n. 16-17—Shell Nematology Workshop, Biltmore Hotel, New York, Max M. Lowish, Shell Chemical Corp., 460 Park Ave., New York 22, N.Y.

n. 17 — Second Annual Western Oregon Fertilizer Dealers Meeting, Withycombe Hall, Oregon State College, Corvallis, Ore.

n. 21-25—Pacific Northwest Vegetable Insect Conference and Northwest Cooperative Spray Project, Imperial Hotel, Portland, Ore.

n. 22-24—California Weed Conference, Fresno Memorial Auditorium, Fresno, Cal. Conference headquarters, Hotel Californian.

n. 23-24 — Fourth Annual Pacific Northwest Agricultural Chemicals Industry Conference, Benson Hotel, Portland, Ore., Sponsored by Western Agricultural Chemicals Assn., C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Executive Secretary.

n. 23-25 — Fertilizer and Lime Salesmen's Conference, Pennsylvania State University, State College, Pa.

n. 23-25—Southern Weed Conference, Bon Aire Hotel, Augusta, Ga.; Walter K. Porter, Jr., Agricultural Experiment Station, Louisiana State University, Baton Rouge, secretary.

n. 24-25—Illinois Custom Spray Operators' School, Illini Union, University of Illinois campus. H. B. Petty, extension entomologist.

n. 25—Colorado Agricultural Chemicals Assn., Annual Meeting, Cosmopolitan Hotel, Denver, Frank J. Randall, the C. D. Smith Co., P.O. Box 839, Grand Junction, Colo., Secretary-Treasurer.

Jan. 28-29—National Cotton Council of America, Annual Meeting, St. Louis, Mo.

Jan. 31-Feb. 1-2—Agricultural Aircraft Assn., Annual Convention, Californian Hotel, Fresno, Cal., Wanda Branstetter, Route 3, Box 1077, Sacramento, Executive Secretary.

Feb. 4-6—Cotton States Branch, Entomological Society of America, Birmingham, Ala. W. G. Eden, secretary-treasurer, Alabama Polytechnic Institute, Auburn, Ala.

Feb. 13-15—Midwestern Chapter, National Shade Tree Conference, Pfister Hotel, Milwaukee; N. B. Wysong, 536 N. Harlem Ave., River Forest, Ill., secretary-treasurer.

Feb. 14-15—Middle West Soil Improvement Committee, Edgewater Beach Hotel, Chicago. Zenas H. Beers, 228 N. LaSalle St., Chicago, executive secretary.

Feb. 19-20—Alabama Pest Control Conference and First Annual Meeting of the Alabama Association for the Control of Economic Pests, Auburn, Ala., W. G. Eden, Alabama Polytechnic Institute, Auburn, secretary-treasurer.

Mar. 4-5—Western Cotton Production Conference for 1957, Westward Ho Hotel, Phoenix, Ariz.

March 6-8 — National Agricultural Chemicals Assn., Spring Meeting, Fairmont Hotel, San Francisco, L. S. Hitchner, 1145 19th St. N.W., Washington, D.C., Executive Secretary.

March 11-12—Southwestern Branch, Entomological Society of America, Annual Meeting, Gunter Hotel, San Antonio, Sherman W. Clark, 811 Rusk Ave., Houston 2, Texas, Secretary-Treasurer.

March 27-29—North Central Branch of Entomological Society of America, Annual Meeting, Des Moines, Iowa.

April 2—Western Agricultural Chemicals Assn.; Spring Meeting, Hotel Biltmore, Los Angeles, Cal.; C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., executive secretary.

June 9-12—National Plant Food Institute, annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

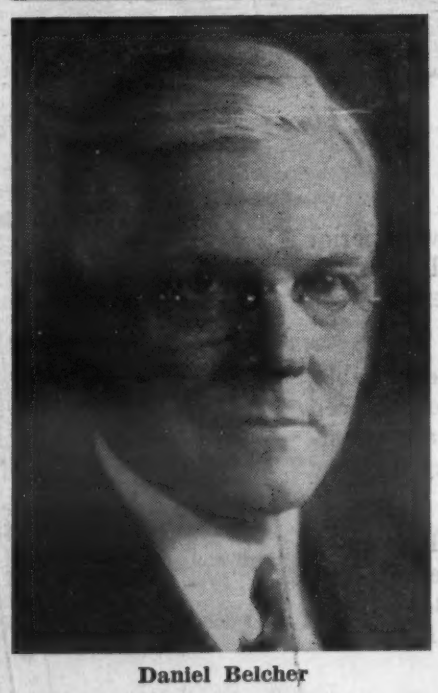
June 17-19—Fifteenth Annual Convention of the Association of Southern Feed and Fertilizer Control Officials, Dinkler-Tutwiler Hotel, Birmingham, Ala., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

June 23-26—American Society of Agricultural Engineers, Golden Anniversary meeting, Michigan State University, East Lansing, Mich.

June 26-28—Eighth Annual Fertilizer Conference of the Pacific Northwest, Benson Hotel, Portland, Ore. B. R. Bertramson, Washington State College, Pullman, Wash., chairman.

July 17-19—Southwestern Fertilizer Conference and Grade Hearing, Galvaz Hotel, Galveston, Texas.

Oct. 2-4—Eleventh annual Beltwide Cotton Mechanization Conference, Shreveport, La.



Daniel Belcher

Daniel Belcher of Bemis Bro. Retires After 45 Years

MINNEAPOLIS — Daniel Belcher, senior vice president of Bemis Bro. Bag Co., is retiring from active duty after 45 years service. He is a graduate of Massachusetts Institute of Technology, and joined Bemis in 1911. His early activities were in efficiency engineering, time studies, personnel and employment phases of the business. He was elected a director at the age of 31, in 1917, and at the same time was named head of the Bemis engineering department in St. Louis. In 1922 Mr. Belcher moved to Minneapolis as manager of the Minneapolis bag factory. He was made a vice president in 1934.

Nebraska Farmer Produces 100 Bu. Corn on Dry Land

PALMER, NEB.—A Merrick County, Neb. farmer has proved it is possible to produce 100 bu. of corn per acre without irrigation even in a dry year.

Elmer Stone who farms near here says his formula is: "get soil samples tested and follow planting and fertilizing recommendations to the letter."

By following this simple formula, Mr. Stone was able to produce a 103 bu. average on a five acre corn plot in 1956, reports M. D. Weldon, extension agronomist at the University of Nebraska College of Agriculture.

Mr. Stone's plot was part of a 26 acre bottom ground field. It received 7.8 inches of rain during the growing season. A soil testing and fertilizing program had been carried on for the past four years. This included liming where needed for legumes and fertilizer plowed under before planting. Eighty pounds of 13-39-0 and 50 lb. of nitrogen in the form of anhydrous ammonia had been applied in this manner.

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Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

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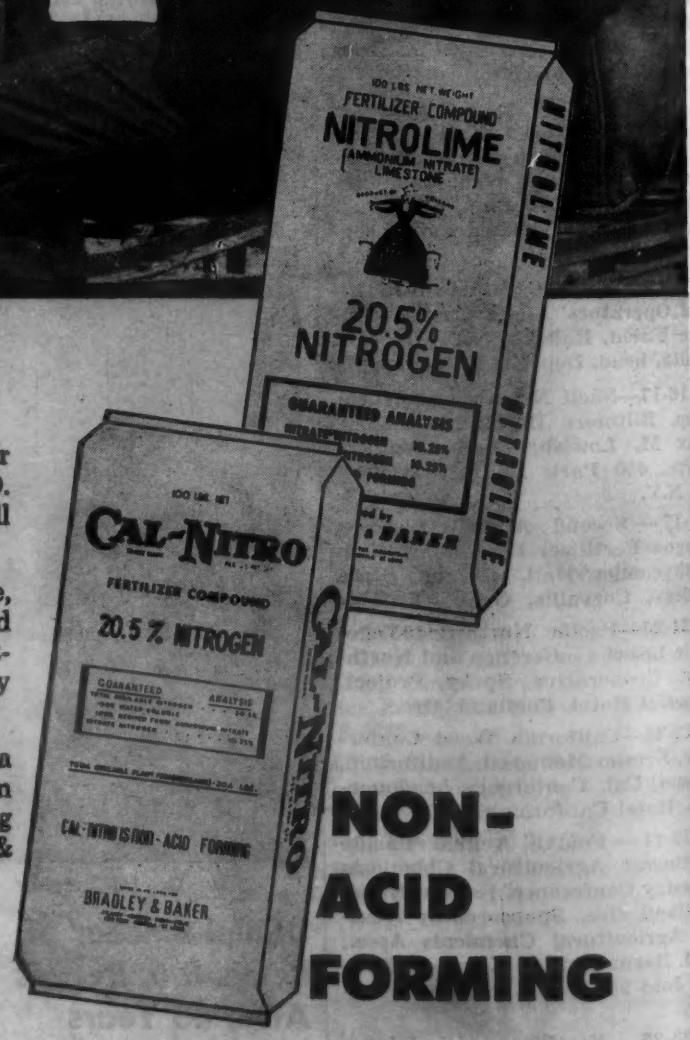

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